

“Not Quite Mechanical:”

Tanks and Men on the Western Front

by

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ABSTRACT

In 1916, in the middle of the First World War, Britain developed and deployed the first military tanks on a battlefield, signifying a huge step forward in the combination of mechanization and the military. Tanks represented progress in technical and mechanical terms, but their introduction to military goals and military environments required the men involved to develop immaterial meanings for the tanks. Tactically, tanks required investment from tank commanders and non-tank commanders alike, and incorporating tanks into the everyday routine of the battlefield required men to accommodate these machines into their experiences and perspectives. Reporting the actions of the tanks impelled newspapers and reporters to find ways of presenting the tanks to a civilian audience, tying them to British perspectives on war and granting them positive associations. This thesis sought to identify major concepts and ideas as applied to the British tanks deployed on the Western Front in the First World War, and to better understand how British audiences, both military and civilian, understood and adopted the tank into their understanding of the war. Different audiences had different expectations of the tank, shaped by the environment in which they understood it, and the reaction of those audiences laid the foundation for further development of the tank.

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INTRODUCTION

In September 1916, the British army utilized tanks on the Western Front for the first time, introducing a new weapon into a war that had witnessed many similar transformations. As technical innovations, the tanks were part of a shift towards mechanization, slowly developing alternatives to raw manpower or horsepower in military environments. However, the usage and the presence of the tanks in the First World War did not mean that everyone who interacted with the tanks understood their purpose or even supported their production. Developing the tanks as machines required initial investment from engineers, but gathering support from the army, the government, and the civilians of Britain was a process that developed throughout the war. People responded to the tanks in different ways and adapted them into their memories of the war and their understanding of the war based on their perspective or position. For tacticians and designers, the tank was most useful as a concept, an indicator of mechanical progress that would revolutionize warfare. For the early tank crews, the tank made physical demands and enforced organizational boundaries that defined them as tank men without removing them from the stresses of the front line. For civilians on the home front, the tanks became part of the expanding propaganda efforts, providing a tangible reference to the war effort and a visual display of patriotism. Studying the tank through the lens of its different audiences reveals the variety of interpretation applied to the early British tank.

To consider the various audiences for the tanks and understand them in turn, clear definitions of these audiences are necessary. Beginning in 1914, an administrative nucleus of men who focused on the tanks emerged, drawing on technical knowledge and innovation to propose a solution to the apparent stagnation on the Western Front. Their work had begun with early proposals bandied between the War Office and the Admiralty, but delays and miscommunication stalled tank production until 1916.¹ In the face of this resistance, the men who believed in the concept of the tank clung to their projections of a mobile tractor or enormous

¹ Sir Albert Gerald Stern, *Tanks, 1914-1918: the Log-book of a Pioneer* (London: Hodder and Stoughton, 1919).

armored car capable of penetrating enemy lines.² As the tanks emerged onto the battlefield, it became clear that they did not fit easily into traditional military roles: they were too slow to substitute for cavalry, yet their armor capabilities made them more resilient than the infantry, and their 6-pounder Hotchkiss guns gave them firepower enough to perform like artillery guns. The development of the Tank Corps administration allowed Major J.F.C. Fuller to begin outlining his own presentation of tank tactics, waging a private war of correspondence against Haig's administration and fighting with the War Office to insist that tanks were viable weapons if given the proper chance.³ Though the physical tanks had their own material needs, Fuller hoped to provide for their administrative needs, giving them the tactical theory necessary to justify their continued production.

Another important audience can be found in the tank crews and tank men who formed the personnel of the early Tank Corps. The tank crews interacted with the tanks daily, whether training behind the lines or active on the front lines.⁴ Unlike Fuller or tank designers, tank crews did not develop theories about tank use and focused instead on the immediate needs of their unit. Commanders found the collection of a new branch of men, hastily designed and haphazardly collected from other branches, a serious barrier to any kind of cooperation or community.⁵ The process of training, the rigor of battle, and even the freedom to play and relax all provided tank crews with material to ground their understanding of their new roles, and for them to incorporate their tanks into their experience of the war.

Finally, after the tanks had seen action, news of their existence finally reached the civilian population of Britain. At first, newspapers were limited to passing along descriptions and artist's sketches, since censorship prevented the publication of photographs of the tanks. By November

² Basil Liddell Hart, *The Tanks*, Vol. 1, (New York: Frederick A. Praeger, 1959).

³ Major J.F.C. Fuller, *Memoirs of an Unconventional Soldier* (London: Nicholson & Watson, 1936), 277.

⁴ Daniel Edgar Hickey, *Rolling into Action: Memoirs of a Tank Corps Section Commander* (Uckfield, England: Naval & Military Press, 2007).

⁵ William Watson, *A Company of Tanks*, (London, William Blackwood and Sons: 1920).

1916, photographs reached the British press, and in January of 1917, a war film including scenes of tanks was available in British cinemas.⁶ Tank images and memorabilia remained popular after their introduction, culminating in the Tank Bank campaigns of 1917-1918 which brought real tanks into the cities and streets of Britain. With the chance to touch (and on rare occasions, ride) a tank, civilians could begin to experience the tanks even more vividly than in photographs or film. Newspaper reports primed civilians to understand the tanks as emblems of British progress, indicative of British victory. The Tank Bank campaigns also confirmed this perception of tanks, using the tanks as a visible measure of British industrial production to encourage munitions workers and observers on the home front.⁷ The purchase of war bonds through the Tank Bank campaign reflected the impact of the tanks and provided the clearest link between the tanks and their financial and national meaning.⁸ Initial textual and photographic descriptions prepared British civilians to accept the tanks by lending them entertaining traits instead of menacing ones, and the continued use of tank imagery in war films, entertainment, and fundraising efforts reinforced the tank's positive connection to patriotism and the war effort.

Tanks have earned attention from academics since their initial deployment, but a deep consideration of their intangible meanings and requirements has only been visible in recent years. Some historians have chosen to emphasize the technical aspects of the tank: works like those by Richard Ogorkiewicz explore these details at length, explaining the various requirements that effected changes in tank designs from model to model, and even the differences in designs between countries.⁹ These technical changes reflect the various tactical approaches of their designers, but Ogorkiewicz does not evaluate how these changes affected the perception of the tank among non-tacticians. The work of David Fletcher is vital as a means of accessing personal

⁶ *The Battle of the Ancre and the Advance of the Tanks*, film, 1917, Imperial War Museum, Catalogue No. IWM 116.

⁷ "Our London Letter", *The Northern Whig*, December 10, 1917.

⁸ "Club Talk", *The Sporting Times*, December 8, 1917.

⁹ Richard M. Ogorkiewicz, *Armour : The Development of Mechanised Forces and Their Equipment* (London: Stevens & Sons, 1960).; also in Ian Hogg, *Armour in Conflict : The Design and Tactics of Armoured Fighting Vehicles*. (London: Jane's, 1980).

experiences from tank crews in the First World War, consolidating the archives from the Bovington Tank Museum in England into accessible, structured works that present the experiences of the war as tank men remembered them.¹⁰ Again, Fletcher's work explores the action of the war and the movement of the tanks in great detail, but lacks in-depth reference to audiences outside of the tank crews or technical staff. Without the contrast afforded by a comparison of audiences, Fletcher's work offers only partial conclusions. Patrick Wright, in his book *Tank*, follows the tank from 1916 through the present day, exploring its technical requirements, the adoption of the tank into various national militaries, and how the tank's inclusion in warfare changed cultural references to warfare.¹¹ By moving through a litany of different wars and different nations, Wright is able to highlight the role tanks played for different nations in both a military and cultural sense. Wright's work is the primary resource that attempts to move between the tangible and intangible so explicitly, and it is his inclusion of various audiences that this thesis seeks to emulate.

Evidence for this study comes from a variety of sources. For British tank crews, the majority of their personal accounts are held by the Bovington Tank Museum or the Imperial War Museum.¹² Some individuals published their memoirs as full books, but shorter accounts and oral interviews conducted by the Imperial War Museum are also useful in examining the personal perspectives of these men.¹³ To understand Major Fuller's perspective and shift attention to the men involved in the administration of the tank, sources are available in Fuller's various publications, including his own memoir and his account of the history of the Tank Corps from

¹⁰ David Fletcher, *Tanks and trenches: First Hand Accounts of Tank Warfare in the First World War* (Frome, Somerset: Alan Sutton Publishing Limited, 1994).

¹¹ Patrick Wright, *Tank: The Progress of a Monstrous War Machine* (London: Faber and Faber, 2000).

¹² Jason Addy, sound recording, 1983, catalogue no. 7031, Imperial War Museum, London, England; Bertram Steward, sound recording, 1986, catalogue no. 9279, Imperial War Museum, London, England; W. J. Fullerton, sound recording, 1971, catalogue no. 710, Imperial War Museum, London, England.

¹³ Harold A. Littledale, "With the Tanks", in *The Atlantic Monthly*, Dec. 1918, 836-848.

1914 to 1918.¹⁴ Lieutenant-Colonel Stern, an Admiralty secretary in charge of early tank development, also published a history of the tank's development in Britain.¹⁵ Another early overseer, Colonel Ernest Swinton, gave his own assessment of the events as part of his personal memoir, attempting to provide another perspective of the tank's development from a more dramatic viewpoint.¹⁶ Though Fuller provided the greatest wealth of specific documents and clear explanations about tank tactics and administrative practices, these other insights also provide needed context for the initial development of the tank. Moving to a civilian audience opens up a much wider pool of sources, primarily in the form of newspapers. At first, newspaper reports communicated the actions of the tanks at the front, but as tanks remained popular, newspapers also reported on the production of war films including tanks, the tours of performers with tank-based routines, and the efficacy of the Tank Bank fundraising campaign that allowed civilians to interact with a tank. Material items like souvenirs and memorabilia also provide access to a civilian understanding of the tanks, and records of the Tank Banks give a glimpse at the influence the tanks earned during the war years.¹⁷

This thesis seeks to define and clarify how these various audiences understood the tank, and how the tank fit into existing perspectives held by their viewers. By moving between different audiences, this essay will demonstrate the different features and methods by which these audiences understood the role of the tanks in their lives. Concentrating specifically on the tank also allows for a greater exploration of the nuance in its representation, avoiding large-scale generalizations about technology in the First World War to instead identify which aspects of the tanks were emphasized and which were minimized in the minds of their audiences.

¹⁴ Major J.F.C. Fuller, *Tanks in the Great War 1914-1918*, (New York: E.P. Dutton and Company, 1920); Major J.F.C. Fuller, *Memoirs of an Unconventional Soldier* (London: Nicholson & Watson, 1936).

¹⁵ Albert Gerard Stern, *Tanks, 1914-1918; the Log-Book of a Pioneer* (London: Hodder and Stoughton, 1919).

¹⁶ Ernest Dunlop Swinton, *Eyewitness, Being Personal Reminiscences of Certain Phases of the Great War, Including the Genesis of the Tank* (Garden City: Doubleday, Doran & Co, 1933).

¹⁷ Barbara Jones and Bill Howell, *Popular Arts of the First World War*, (New York: McGraw-Hill Book Company, 1972); Robert Southall, *Take Me Back to Dear Old Blighty: The First World War through the eyes of the Heraldic China Manufacturers*, (Horndean, Great Britain: Milestone Publications, 1982).

Understanding the tanks through their British designers, crew members, and civilian audiences gives necessary background to later developments in British tank organization and the memory of tanks in Britain today.

CHAPTER 1

To understand the use of tanks in the First World War, it is necessary to first look to the men who designed them, supplied their units, and organized their movements. The First World War was an administrative war, waged with clerks and secretaries alongside the front-line infantry and artillery. "Command in this sense, as it evolved in the course of the war, was as much a matter of the bureaucracy and technology of communication and staff procedures as personal military leadership, although many generals combined both functions in themselves."¹⁸ The leadership and administration of the early tanks thus formed a crucial part of their development within the British army, and this administration had to develop their own understanding of the tanks in order to design and implement them effectively. In this chapter, I will examine the administration of the early British tank administration to determine how they understood the tanks through lenses of theory and design, beginning with the Landships Committee formed under Albert Stern. After the tanks left the development stage, focus then shifts to J.F.C. Fuller, whose tactical discussions helped define the early tanks and propose their likely uses.

Though most of the difficulties and advantages of early tanks came from their novelty, early administrators were fully cognizant of how tanks also echoed similar designs and concepts from the history of warfare. As a student of tactics, Major J.F.C. Fuller was eager to explain how the tank formed a vital advancement in armored warfare, much like the knight in armor and the siege engine of the medieval period had dominated battlefields and the phalanx of the ancient world had utilized the shield to maximum effect.¹⁹ Other authors, including Sir Basil Liddell Hart, found connections between the tanks and earlier designs, especially Leonardo da Vinci's plans for a horse-drawn battle wagon.²⁰ The idea of making armor mobile had engaged military minds for centuries, yet by the First World War, such a combination had not yet become a mechanical reality.

¹⁸ Gary Sheffield and Stephen Badsey, "Strategic Command", in *The Cambridge History of the First World War*, Vol. 1, ed. Jay Winter (Cambridge University Press, December 2013), 377.

¹⁹ John Frederick Charles Fuller, "Mechanical History" in *Tank Corps Journal*, Nov.-Dec. 1932, 409-412.

²⁰ Hart, *The Tanks*, Vol. 1, 5-10.

On a smaller scale, the specific concept of the tank arose from a variety of sources. The variety of the tank's origin is best presented in the controversies that arose after the First World War and the lawsuits that commenced once the tank was no longer a matter of military secrecy: Sir William Tritton, Major Wilson, Colonel Ernest Swinton, an Australian Mr. Lance de Mole, and even the author H.G. Wells were drawn into various legal and semi-public arguments regarding the "true" inventor of the tank. Not only were these men working on their concepts at different times, but each man had different methods of designing a tank, and worked in radically different ways.

Chronologically, Wells had the best claim to designing a tank. In his story "The Land Ironclads", published in *The Strand* magazine in 1903, he described a European war in which one side utilizes enormous armored machines the size of naval ships, crawling along on tracks: "It had lifted its skirt and displayed along the length of it—feet! They were thick, stumpy feet, between knobs and buttons in shape—flat, broad things, reminding one of the feet of elephants...as the skirt rose higher, the war correspondent, scrutinizing the thing through his glasses again, saw that these feet hung, as it were, on the rims of wheels."²¹ Though the machines he described would have been too large to be of practical use, he did make reference to a Pedrail system already available for tractors in Britain, and hinted at the dimensions and military application of this type of armored vehicle. Though perceptive and imaginative, Wells was not in a position to and had no need to make his fictional design a reality.

Over the first decade of the twentieth century, there were perfunctory attempts to integrate tractor treads or tracks with military vehicles. An experimental tractor, weighing 8 tons, was taken on a trial run of 300 miles through the British countryside in the spring of 1910, though nothing came of this experiment.²² A civil engineer from Australia, Mr. Lance de Mole, submitted a design for a cross-country machine to the War Office in 1912, claiming that the use of a track

²¹ Herbert G. Wells, "The Land Ironclads," in *The Strand*, December 1903, 757.

²² Extract from unpublished biography of Brigadier G.C.G. Blunt, sent to Sir Basil Liddell Hart 16 September 1965, catalogue no. LH 7/1919/1, King's College London Basil Liddell Hart Centre for Military Archives.

would allow his design to climb over any obstacle. His only reply at the time was that the War Office (specifically the Munitions Invention Department) was not then investigating the use of tracks or tractors, and his design was not used.²³ It would not be until the First World War began that the need for a military tractor, or an improved armored car, would gain interest among audiences untrained in mechanical or engineering departments, and would earn the attention it needed for serious experimentation.

Within only a few months of the beginning of the war, by late 1914, a flurry of activity focused on the need for a new mechanical solution to the problems of the war: Lieutenant-Colonel Stern, recalling the fall of that year, described the interest in armor from multiple sides, with Sir Winston Churchill requesting the creation of “landships,” Major Hetherington describing a “cross-country armored car,” and a letter to the Prime Minister outlining a need for “special mechanical devices for taking trenches.”²⁴ Though vague at first, these concepts focused primarily on a vehicle that could overcome trenches and move the infantry further forward, breaking through the lines established in an earlier battle. The flood of inspiration must have certainly been encouraging for early tank designers, especially as armored cars were already seeing service in 1914, but this rush of ideas meant that each hopeful inventor had different ideas about what exactly their machine would accomplish.

Beginning with the design of an armored car was a logical start. Armored car divisions already existed within the British army, and were capable of delivering men and supplies with some speed. However, adding heavier armor to armored cars robbed them of their speedy advantage, and with wheels designed for paved roads and lanes, their cross-country capabilities were sorely lacking. As First Lord of the Admiralty in 1914, Churchill conceived of an armored force that would replicate on land what the British navy had already accomplished at sea: heavy

²³ Lancelot Eldin de Mole, “Letter asking for remuneration from the British Munitions Inventions Department”, South Australia State Library, catalogue no. PRG 1319/1/30. De Mole would later seek acknowledgement and compensation for his design after the war, but would be unsuccessful in convincing the British bureaucracy of the legitimacy of his claims.

²⁴ Sir Albert Gerald Stern, *Tanks, 1914-1918: the Log-book of a Pioneer* (London: Hodder and Stoughton, 1919), 11.

armor that could move through any obstacle, carrying guns to forward positions to strike at enemy lines. Tactically, this concept was forward-thinking indeed, but since Churchill belonged to the Admiralty and not the War Office, he and his followers were hard-pressed to convince the War Office of the value of designing such armored machines. Finally, designs had already been put forward for gun-carriers with enormous wheels to cross rivers and wide trenches, but increasing the size of the wheel would have only made the machine more vulnerable to artillery fire and the design was scrapped. Russia had launched a similar design in 1914, only to find that the weight of the wheels made the machine too heavy to move through thick mud.²⁵ If designers were attempting to develop a stronger armored car, their path to success would have been more evident, but because other voices recommended development along the lines of gun carriers or naval dreadnoughts, proposed adjustments or refinements did not always follow the same theory of design. Even when in a conceptual stage, the actual purpose of the tank was unclear, thus making it difficult for early coordinators to decide what features their design should incorporate.

It was Churchill, with the least concrete plan and the most administrative power, who took it upon himself to create a Landships Committee under his administration in the Admiralty, bringing on the Director of Naval Construction Eustace d'Eyncourt to help lead the committee and oversee its progress.²⁶ Again, trials with tractor tracks and cross-country track systems were attempted, both in Britain and in France. Without a clear purpose in mind, the Landships Committee had difficulty finding a design to use in moving forward: the designs they had were intended to carry infantry, but creating machines of a size capable of transporting a viable force were too large and unwieldy to be of any use. The Pedrail system, which had been identified by H.G. Wells as a viable system for his fictional machines, proved too small to gain the traction needed to propel machines of the projected dimensions, and so the committee had to wait as

²⁵ Steven J. Zaloga and James Grandsen, *Soviet Tanks and Combat Vehicles of World War Two*. (Arms and Armour Press: 1984), 27.

²⁶ Stern, *Tanks, 1914-1918*, 11.

Caterpillar tracks were ordered from America.²⁷ In June of 1915, Churchill left the Admiralty, and it came to d'Eyncourt to maintain the momentum of the Landships Committee and keep it from falling to the wayside.

At the same time, another current of inspiration came from the War Office, apparently unconnected to Churchill's creation of the Landships Committee. In an odd coincidence, a war correspondent much like the main character of "The Land Ironclads" found himself inspired by that self-same story as he reported back from G.H.Q. in France, watching as early movement developed into the extended actions of slow moving trench warfare. Though a military man in his own right, Major Ernest Swinton spent the first year of the war reporting on conditions on the Western Front and earning heavy censorship for his effort. In his memoirs, constructed as a defense of his claim to title of "inventor of the tank", Swinton explained that he approached Sir Maurice Hankey, the current Secretary of the Committee of Imperial Defense, with an idea about using American Holt tractors to climb over obstacles on the Western Front. The date given by Swinton was October of 1914 (though his letter to Hankey was dated November) meaning that his suggestion would have been given well before the formation of the Landships Committee in February 1915, but the information given by Swinton about his "idea" was as unclear as the Landships Committee's own theories in the winter of 1914-1915.²⁸ Like others, Swinton had clearly seen a tractor in motion, and coupled it with his experiences during the first months of conflict. However, whether this is enough to credit him as "inventor" is doubtful.

What is crucial about Swinton's account is not his technical knowledge of the tank, but his connections and initial inspiration. Knowing Hankey personally, Swinton was able to communicate this concept of a tractor in warfare directly to a figure with significant influence in the War Office rather than the Admiralty. Swinton also had the chance to speak with Lord Kitchener himself, Secretary of State of War, but his appointment was cancelled and Swinton

²⁷ Stern, *Tanks, 1914-1918*, 22.

²⁸ Ernest Dunlop Swinton, *Eyewitness, Being Personal Reminiscences of Certain Phases of the Great War, Including the Genesis of the Tank* (Garden City, N.Y.: Doubleday, Doran & Company, Inc., 1933), 83, 175-176.

returned to France in the winter of 1914 nursing worries that the idea of war tractors would be lost due to disinterest.²⁹ His duties as war correspondent occupied most of his time in the intervening months, but updates from Hankey in early 1915 reassured Swinton that someone was pursuing the idea of tractors. The Prime Minister himself was aware of these movements, having been petitioned by both Hankey and Churchill, and though Kitchener was unenthusiastic about the concept, Hankey kept the idea close at hand even as Swinton returned to France.³⁰ Since Hankey and Churchill had discussed Swinton's idea prior to the formation of the Landships Committee, Swinton saw the committee's formation as a result of his own inspiration, later taking credit indirectly for Churchill's work.

Swinton's personal influence was certainly important for bringing the tank idea to higher ranking members of the War Office, particularly those who could act on the idea and redirect the necessary resources to the project. However, simply because the Landships Committee was not formed until 1915 does not mean that they lacked the inspiration Swinton claimed. Each man involved with the early concepts of the tank had a goal in mind and a role they imagined the tank would fulfill. From this standpoint, even H.G. Wells can be included among the various "inventors" of the tank, for his outline provided in "The Land Ironclads" demonstrated a knowledge of the technical possibilities of the time as well as potential applications for that technology on a field of battle. From this mess of committees and correspondence, one thing is clear: the tank had no single inventor, and no single individual can claim full responsibility for the tank's development. The technical knowledge required to construct a tank was available even to students with only a casual interest in engineering or mechanics, and was accessible enough for Wells to use such technical details in a fictional story for public consumption. Swinton presented the best argument for having inspired others to pursue research into tank development, but he recorded only brief interactions with Hankey and a Captain Tulloch to develop his ideas.³¹ The Landships Committee

²⁹ Swinton, *Eyewitness*, 81-82.

³⁰ Swinton, *Eyewitness*, 183.

³¹ Swinton, *Eyewitness*, 100.

was from the start a group of people working towards a functioning design. The extended timeline of early tank development also illustrates that inspiration did not come from a single source or a single external need, but rather that the tank as a concept was already wholly accessible to citizens of the early twentieth century. The investment of the British government was thus the final step that made the landships a reality.

Early Trials

The general confusion of purpose did not resolve with the beginning of 1915, nor even with the creation of the Landships Committee. The arrival of the Caterpillar tracks allowed the Landships Committee to produce some experimental tractors, but as late as June 23rd, the full roster read only:

- “(1) One Killen-Strait Tractor
- (2) Two Giant Creeper Grip Tractors
- (3) Two Diplock experimental one-ton wagons
- (4) An experimental ground at Burton-on-Trent.”³²

Despite this meager count, Stern and d'Eyncourt continued to work diligently at coordinating civilian efforts for their own purposes, primarily from Messrs. Fosters and Company of Lincoln. As a company with experience in the production of agricultural machines, Fosters and Company had the resources and the experience to produce tractors on the scale needed by the Landships Committee. To facilitate the design and production, Fosters and Company employee William Tritton joined the Landships Committee, and participated in designing the first functional tank. A supervisor at Burton-on-Trent was Lieutenant W. Wilson, transferred from the Armored Car Squadron, who worked with Tritton.³³ Churchill left the Admiralty in summer of 1915, but fortunately, the new First Lord of the Admiralty saw no reason to interfere with Churchill's “project”

³² Stern, *Tanks, 1914-1918*, 24.

³³ Stern, *Tanks, 1914-1918*, 28.

and left the Landships Committee as it was. D'Eyncourt found it necessary to transfer more responsibility for the committee to Stern, and an attempt to more fully integrate the committee with the War Office, rather than the Admiralty, took place during the early months of 1915. The results of this integration were mixed: Swinton and Hankey must not have been aware of the committee's difficulties, or they might have been more proactive about organizing movement within the War Office itself to support the landships experiments.

Stern found that many of his difficulties came from a lack of workable prototypes. Finding a workable design that utilized the tracks also proved difficult, though with Tritton and Wilson working more closely with Messrs. Fosters and Company, the Caterpillar tracks and the addition of guns to prototype models began to see results. It was the inclusion of guns that led most authors to identify "Little Willie," a model produced in August 1915, as the first real tank for its inclusion of tracks, armor on all sides, and guns.³⁴

"Little Willie," and other designs, continued to use wheels and short track systems for propulsion, meaning that the tractors developed could only cross trenches less than four feet wide—just barely missing the War Office's figures of four feet six inches. The War Office provided this figure only in August of 1915, finally giving the Landships Committee a goal for which to aim, and Tritton and Wilson informed Stern that for a machine to cross a gap of that size, they would require a 'wheel' 60 feet long. "The contour of this sized wheel became more or less the shape of the underside of the new machine, which was called first the 'Wilson' Machine, then 'Big Willie', and finally 'Mother'."³⁵ The wheel discussed was not a singular circular wheel, as in a tractor, but referred instead to the length of continuous track which would be used as the machine's base and would give the machine maximum traction against the ground.

Once Tritton, Wilson, and Stern had a working model, it deserved a name; with the naming of "Little Willie", or the "Tritton" model, it was natural to move simply to "Wilson" and "Big Willie" as the next step in naming. The use of Tritton and Wilson's names for their designs reflects

³⁴ Stern, *Tanks, 1914-1918*, 29.

³⁵ Stern, *Tanks, 1914-1918*, 31.

their personal investment in their work, and Stern saw nothing out of place in referring to specific designs with the names of their inventors. The use of “Little Willie” and “Big Willie” as names may have been a joke referring to the German Crown Prince Wilhelm II.³⁶ Though Stern does not record it, the second model developed was formally christened the H.M.L.S. (His Majesty’s Land-Ship) Centipede, referencing the track type used.

However, the most interesting name of the list is “Mother”, especially with a telegram sent on September 22nd from Tritton and Wilson to Stern: “New arrival by Tritton out of Pressed Plate. Light in weight but very strong. All doing well, thank you. PROUD PARENTS.”³⁷ The concept of parenthood, or of infancy, was reinforced by Stern in the very next sentence of his record, claiming “This was the birth of the tank.” As far as the identities of individuals are present in these designs, Tritton and Wilson take pride of place, adopting not merely an engineer’s interest in their work but a paternal investment in their “child”. What Swinton claimed through his evidence of letters and communications, Tritton and Wilson assumed merely in the language they used: the functioning tank prototypes were theirs, and they had a responsibility to develop those prototypes into products capable of working effectively on the Western Front.

As developments took place on the fields of Burton-on-Trent, the War Office was also realizing the need to more fully adopt the Landships Committee as a genuine war effort. No longer sidelined as “Churchill’s project”, the men of the Landships Committee began to hear more regularly from the Munitions Inventions Department. Stern and Swinton finally met in person and recognized the extent of each other’s efforts, shocked that the miscommunication between the Admiralty and the War Office had allowed the Landships Committee to flounder on its own for so long. Swinton was grateful that Stern (and the committee as a whole) had been able to pursue their prototypes and experiments even while Hankey and Kitchener debated the value of tractors; Stern was grateful to learn that someone in the War Office, with connections among the very highest levels of administration, had already promoted the idea of tractors on the Western Front

³⁶ David Fletcher, *British Mark I Tank 1916* (London: Osprey Pub, 2014), pg. 6.

³⁷ Stern, *Tanks, 1914-1918*, 33.

and was working toward the same goals espoused by the Landships Committee. In their meeting, Stern remembered Swinton commenting on the absurdity of their situation:

“Lieutenant Stern, this is the most extraordinary thing that I have ever seen. The Director of Naval Construction (d'Eyncourt) appears to be making land battleships for the Army who have never asked for them, and are doing nothing to help. You have nothing but naval ratings doing all your work. What on earth are you? Are you a mechanic or a chauffeur?”³⁸

Without clear leadership or specific direction, the Landships Committee was mired in confusion, leaving much of its early efforts unappreciated by the War Office or by the British Expeditionary Force (B.E.F.).

Once communication was more clearly established, the murkiness of tank production and development began to clear somewhat. However, Stern would continue to be frustrated by the input of others, particularly those who had not shared his earlier efforts or understood his vision for the tanks. One observer, watching the tank trials during September of 1915, disapproved of the measure and “viewed with dismay the fact that the War Office, the Committee of Imperial Defense and the Admiralty were all mixed up in deciding this question.”³⁹ The lack of significant progress through 1915 was as disappointing for outside observers as it was for Stern himself, and the need for secrecy hampered the flow of information. Workmen at the Messrs. And Fosters Company were sworn to secrecy when working on tank prototypes, yet they complained of abuse from their comrades for not doing “war work.”⁴⁰ Thus, in the face of engineering difficulties, the doubt of other administrators, and the mire of red tape, Stern found himself bullying the War Badge Department for something to pass along to the Fosters workmen. Never mind that the tanks had not even yet seen battle, or been given crews: as mere prototypes, they formed for Stern a nightmare of logistics and repeated reassurances for everyone involved.

³⁸ Stern, *Tanks, 1914-1918*, 41.

³⁹ Stern, *Tanks, 1914-1918*, 44.

⁴⁰ Stern, *Tanks, 1914-1918*, 45.

Though exhausted, Stern nonetheless found his work worth the effort, especially when machine guns were installed in the “Mother” prototype and fired successfully. As Stern monitored the technical progress, Swinton left the position of war correspondent and returned to England, giving him the opportunity to situate himself in the War Office and more fervently advance the cause of the tanks. Swinton was gratified to find that Churchill had continued to submit memoranda about how armor should be utilized on the Western Front and did much of the bureaucratic legwork in ensuring that the Landships Committee received the attention it deserved. An interdepartmental conference finally took place on December 24th 1915 which confirmed that the tank concept should be in the hands of the Army and the War Office, not the Admiralty.⁴¹ However, not much else was certain: the Admiralty could supply the guns for new tanks, but refused to take on the burden of producing the machines themselves, while the Ministry of Munitions also refused the duty. Finally, it was realized that a new committee would need to be created by the War Office to oversee the production of tanks and their continued trials, beginning with an order for fifty machines.⁴²

Swinton also recounted the process of devising the name of “tank”, since the committee had called the machines “landships” (or occasionally “Caterpillars”) up to this date. Secrecy required that the new committee lose the title “Landships Committee”, since the name itself might give away too much of the secret of the machines, and so Swinton took it upon himself to find a better pseudonym for their work.

The structure of the machine in its early stages being boxlike, some term conveying the idea of a box or container seemed appropriate. We rejected in turn—‘container’—‘receptacle’—‘reservoir’—‘cistern’. The monosyllable ‘tank’ appealed to us as being likely to catch on and be remembered. That night, in the

⁴¹ Swinton, *Eyewitness*, 186.

⁴² Swinton, *Eyewitness*, 160.

draft report of the conference, the word 'tank' was employed in its new sense for the first time.⁴³

Who better than a war correspondent to create a new meaning for a word merely on his own invention? Swinton brought to the conference his flair for the dramatic which echoes throughout his writing, and his decision to use 'tank' has been proved effective over the intervening century.

Swinton made no mention of the other secrecy measures taken to obscure the purpose of the tanks, but the attention given to secrecy certainly indicates how important the tanks were understood to be. Airplanes were prevented from flying over the tank testing grounds, and Cyrillic characters were painted on tank parts as they were shipped across England to substantiate a rumor that the Russians had ordered new water tanks.⁴⁴ The Landships Committee thus managed to work just outside the normal limits of public knowledge or attention, using diversion rather than denial to explain the odd prototypes being developed.

Swinton's investment in the tanks at this time illustrates how the concept of the tank had become more than a mere technical amusement in his mind. His fear that his name would be overlooked prompted him to justify his claim to inventing the tank and to involve himself with tank administration as frequently as possible. . A justified fear, perhaps, but slightly out of line with his actual contributions. Stern had the stronger investment in the tanks, given his position on the Landships Committee, but never went so far as to claim he invented the tank. Instead, his personal pride was more at risk when the committee was ignored or when their early prototypes failed. The allure of mechanical warfare drew interested men to the Landships Committee, like Stern and Swinton, but once involved in the personal politics of administration, those men found additional reasons to justify their connection and claim to the early tanks.

Deployment

⁴³ Swinton, *Eyewitness*, 161.

⁴⁴ Stern, *Tanks, 1914-1918*, 79.

1916 was an especially strong year for the tanks. With their organizational place more firmly located in the War Office, and no longer adrift with the Admiralty, the new Tank Supply Committee was reassured of the attention of higher commanders, and they earned the begrudging approval of Lord Kitchener himself at the conference on December 24th. Churchill's memoranda had found their way through France and into the hands of Sir Douglas Haig, who took over from Sir John French as Commander of the British Expeditionary Force in the early months of 1916. His decision to send an officer to investigate Churchill's references to "Caterpillars" meant that it was Lieutenant-Colonel Hugh Elles who came to England to make his enquiries, fating him to later step into a command position in the fledgling Tank Corps.⁴⁵

Haig's attention to the early tanks was important for their development, for it was partially because of his attention that recruitment and organization for tank crews began in March 1916. Based on optimistic projections of tank production, tank companies were recruited from the Motor Machine Gun Corps, choosing men who had worked with armored cars and machine guns already.⁴⁶ The engineers, designers, and tacticians who had concerned themselves with the tanks for so long had staked their own reputations on the utility of tanks, but now it was a new audience who would be required to put these plans into action. So many tacticians had emphasized the requirement that the tank climb over obstacles on a field, but the inclusion of guns added a new factor that no training manual addressed: the tank crews needed to be trained in the use of their guns, working as gunners as much as mechanics. The requirements of a crew also forced some observers to realize that a tank crew could not merely be thrown into a tank without some introduction; tank crews needed to train together in order to develop teamwork and quick communication skills. Though manuals were designed and presented to tank crews, no amount of reading or studying was sufficient substitute for sitting in a real, functioning tank and practicing at the controls. As Major Williams-Ellis described it, "No one had sat down to imagine a

⁴⁵ Clough Williams-Ellis, *The Tank Corps* (London: Published at the offices of "Country Life" Ltd, 1919), 13.

⁴⁶ Swinton, *Eyewitness*, 220.

Tank in action from within.”⁴⁷ Having passed from test to trial and from design to deployment, the physical tanks made different demands of their new crews than they had of their early champions.

Sir Douglas Haig’s interest in the tanks was an important step in the transition from War Office project to battlefield reality for the tanks: with his approval, the early tanks were not only approved for use, but were eagerly welcomed. This welcome was a relief for men on the Tank Supply Committee, since it retroactively gave credence to their hard work, but Haig’s eager welcome quickly translated into unrealistic optimism. Swinton and Stern, though not always working in tandem, were sure of one thing: there were not enough tanks either in service or being produced to be used effectively before the end of 1916. Focused on coordinating the production of the tanks, Stern found it hard to imagine supplying the B.E.F. with sufficient numbers of tanks when Haig requested them early in 1916. With tank crews still forced to practice with mock-ups, lacking the real tanks to practice driving and maneuvering, any force sent to France would be woefully under-supplied and lacking vital training. Simply placing the tank on the battlefield would not be enough to make a difference in an offensive, and neither would placing an untrained crew in a tank be effective. Stern and Swinton sought to create a fully outfitted force, with crew well-trained in their duties, and prepared to meet the challenges of the new tanks. What made its way to the Somme battlefield in July of 1916 was not this force.

In Haig’s view, having a partially-functioning tank was better than having no tank at all, and so it was that he sent a force of less than 50 tanks into battle at Flers-Courcelette. Swinton found this move absurd, while Stern was similarly uncertain of the idea, yet Haig’s decision gave the tanks a chance to perform under actual battle conditions and emerge with a small—though eventually insignificant—victory.

In 1916, as Colonel Hugh Elles assumed command of the tank crews organized under the Machine Gun Corps Heavy Branch, other professional soldiers joined their ranks to help direct the crews. One of the key figures—perhaps the primary figure—in detailing the tank’s tactical role and fighting for its adoption on a large scale was Major J.F.C. Fuller, a veteran of the

⁴⁷ Williams-Ellis, *The Tank Corps*, 20.

Second Boer War. While in South Africa, Fuller began his work in writing training pamphlets and tactical papers, an occupation that he maintained throughout his relocations from South Africa to India and his return to England in the years precluding the First World War. His military ranks were mostly unimpressive, and through 1914 and 15, Fuller worked mainly as a Railway Transport Officer helping to send other soldiers to France. However, when information about the tanks reached Fuller in August 1916, Fuller obtained permission to see the tanks in person, where they captured his imagination. After being recommended for the position by a captain in the Heavy Branch, Fuller joined the Heavy Branch in December 1916 as a staff officer under Elles.⁴⁸

As a tactician, Fuller claimed and largely deserved much of the credit for developing tank tactics throughout the First World War. Though men like Stern or Swinton took credit for the initial development of the tank, Fuller's appointment left Swinton far out of his depth in tactical matters, and Fuller took on the responsibility not merely of administrating the incipient Tank Corps, but of devising and refining tactical doctrine for use on the battlefield.

Fuller's understanding of his position was laden with the pride of his appointment and his own self-confidence. The tanks quickly became much more than a mere development in warfare: they dominated Fuller's tactical thinking and his perception of the B.E.F.. The difficulty in accepting Fuller's presentation is that Fuller was a single voice claiming the tanks as masterful weapons. In contrast to Haig, the man Fuller used most often as a foil to his own understanding of tank utility, Fuller believed the tanks would immediately return the war to a mobile conflict, while Haig's initial enthusiasm for the tanks relied on their short-term potential for providing armor. Fuller's focus led him to make grandiose claims about the potential of the tanks, while that potential was unreachable so long as the B.E.F. had to manage infantry, artillery, cavalry, and political concerns in the midst of a brutal conflict. Fuller's claims about tanks could have been realized—Fuller was no idiot, and most of his assumptions were founded in fact—but the tanks were far less of a concern for the B.E.F. and its generals than were the immediate issues of the

⁴⁸ John Frederick Charles Fuller, *Memoirs of an Unconventional Soldier* (London: Nicholson & Watson, 1936), 80, 88.

war. In understanding Fuller's perspective, one must be careful not to accept Fuller's caricature of Haig as slow-witted or belligerently stupid.

That Haig was stubborn is not in question: Haig could be defiantly stubborn, especially in the face of what he assumed to be interference in his work, but he was hardly unique for having this trait. Though he originally wrote high praise of the tanks and encouraged their use, their presence on the battlefield failed to impress him, and he soon lost his excitement for tanks and refocused his efforts on artillery and infantry efforts. Haig's apparent vacillation on his opinion of tanks should not be read as an indication of a man who could not make up his mind, but instead reflects the grim truth of the practicality of tanks when they were still untested and relatively new. Haig was capable of understanding the tactical advantages of tanks, as indicated by his initial interest, but when their meager numbers proved insufficient to radically change the outcome of battle, Haig returned his attention to other more pressing matters. Haig's position as general of the B.E.F. should be enough to remind us of his many responsibilities. Fuller's attention to a single, underdeveloped branch could hardly be replicated by a general coordinating battalions across nearly 400 miles of front.

Like some of his fellow tank men at the company or battalion level, Fuller recognized the need for a spirit of cooperation among new tank recruits, and also decried the methods of recruitment that had assembled such a "band of brigands"⁴⁹ from among the B.E.F. to supply the new tank battalions. Here, Commander Watson and Commander Hickey's accounts give more insight as to the daily routine of establishing drills and running practice assaults, and Fuller's concern remained at an administrative level. He did give personal speeches to each company, which he thought very effective, but he was equally concerned with the creation of a corps badge, declaring battalion colors, and having the name officially changed to the "Tank Corps."⁵⁰ In these goals, he acted with the support of his commander, Colonel Elles. Even more so than Stern and

⁴⁹ Fuller, *Memoirs of an Unconventional Soldier*, 84.

⁵⁰ Fuller, *Memoirs of an Unconventional Soldier*.

Swinton, Elles and Fuller recognized that it would be the cohesion of tank crews, not merely the technical advantages of the tanks, that would give the tanks a better chance at success.

While the individual accounts of tank men gave hints of their confusion or frustration with the organization of the early tank battalions, Fuller's perspective spoke to the reality underlying this confusion. Fuller blamed the lack of a true tank representative on the GHQ staff as the key reason behind the Tank Corps' instability: without a single representative or agent with whom to communicate, the Tank Corps were left to go from department to department, requesting armament from one, transportation from another, and personnel from yet another. The small size of the tank crews was a simple result of a lack of tanks, but their size also prevented them from receiving the attention they deserved (or that Fuller believed they deserved). Fuller mentioned Stern by name, identifying him not as a hindrance to the goals of the Tank Corps but using him as an example to illustrate how the Home Office and production goals of the tank men in Britain could stand at odds to the realistic needs of the Tank Corps.⁵¹ Stern, in connection with Wilson and Tritton, was focused on creating a better tank model and running further experiments with experimental models to produce the best design. In contrast, by the end of 1916 Fuller and Elles were more concerned with having enough tanks to train and organize effectively, while Stern continued to try and devise modifications for updating the current tank design. Totally separate from their actual performance in their few minor battles, the tanks and their crews were subject to the persistent tensions of supply and demand throughout 1916. Without a larger number of tanks, Fuller determined, the Tank Corps would never prove their efficacy as a fighting force. However, without proving the efficacy of the tanks as a weapon, the Tank Corps risked having their supplies and tank production reduced, since the current models could be seen as ineffective.⁵²

By the Battle of Arras in the spring of 1917, Fuller was detailing the problems with the contemporary British approach to warfare. For tanks to make a successful attack, the ground had to be stable and mostly undestroyed, meaning that the preliminary artillery barrages common on

⁵¹ Fuller, *Memoirs of an Unconventional Soldier*, 95.

⁵² Fuller, *Memoirs of an Unconventional Soldier*, 101.

the Western Front did more to hinder the tanks than provide serious cover. However, it was the Battle of Bullecourt later that year where Fuller's real tactical imagination was inspired, and he described an impassioned response to the reports from Bullecourt. On a practical level, the battle itself was a failure. However, because there had been only a limited artillery barrage, Fuller saw the embodiment of his earlier ideas from Arras: tanks could perform, and could potentially perform better, when the artillery provided little to no preliminary bombardment. Furthermore, the ability of the tanks to coordinate with infantry indicated the real benefits of having the two arms work together, the tanks as an offensive "spike" to push into the enemy lines and the infantry as an occupying force to follow behind and fill the enemy trenches.⁵³ Since artillery had, for much of the war, been considered the offensive weapon to puncture enemy lines, this shift towards replacing the artillery bombardment with tank maneuvers was a promising change for the Tank Corps. Fuller continued to cite the need for more tanks, arguing that had there been four times the number of tanks available at Bullecourt, the losses might have been victories.⁵⁴

Fuller's constant struggle was against what he perceived to be the obstinacy, stupidity, or mere idiocy of General Headquarters. Not always were the problems of the Tank Corps the fault of Douglas Haig himself, but Fuller did not hesitate to reach for the general as an example of GHQ's stubbornness. An examination of Haig's records shows little of the stupidity or obstinacy which Fuller found so aggravating. It was, of course, unlikely that Haig himself would record his own failings, especially in journals he later intended to publish. Instead, the picture given regarding the tanks was one much more favorable in tone, as Haig's first conversation with Colonel Ernest Swinton indicated not only an appreciation of tanks, but a desire for them to be produced and deployed as soon as possible. This note was made in April of 1916, as Haig was preparing for the First Battle of the Somme; by August, Haig was still waiting for the tanks to arrive, as per correspondence from Swinton. The entries for 15 September and 17 September

⁵³ Fuller, *Memoirs of an Unconventional Soldier*, 103.

⁵⁴ Fuller, *Tanks in the Great War*, 88-89.

described the notable tank actions of the 15th and included a personal note of congratulations to Colonel Swinton.⁵⁵

Fuller, in correspondence with other tank men and discussions at the Tank Headquarters in France at Bermicourt, continued to develop and consider various forms of tank tactics. In the aftermath of Bullecourt, Fuller's next big item of interest was a paper entitled "A Tank Army" written by Chief Staff Officer Martel, in which Martel speculated about the formation of an army built only of tanks, with different tanks fulfilling different roles.⁵⁶ Again, this kind of speculation was too remote to be of practical use to tank crews on the ground but beginning in 1917 and coming to light in 1918, the development of alternate tank models would begin to realize some of Martel's thinking.

Ups And Downs Of 1917

The slog of bureaucracy seemed to Fuller the greatest challenge to the Tank Corps, especially since the opinion of General Douglas Haig seemed to rely upon whether the Tank Corps would require a diversion of resources away from infantry divisions. The winter of 1916-17 saw the growth of the Tank Corps, to Fuller's relief, but his relief was short-lived, since the acquisition of new recruits meant that tank tactics would have to be taught to yet another group of officers. The addition of more battalions was also a welcome boon to the Tank Corps, yet again, the necessity of coordinating tank movements with infantry and artillery decisions proved frustrating. Fuller eventually would write a paper planning the use of tank tactics in 1918 in which he made one of the strongest arguments for mechanization, claiming that since mechanical power would quickly replace muscular power, it was vital that the tacticians along the Western Front began to choose their offensive locations to best favor the tanks. Fuller's formula was seemingly simple: the ground chosen must be "(1) Suitable for the rapid movement of tanks. (2)

⁵⁵ Douglas Haig, G. D. Sheffield, and John Michael Bourne, *War Diaries and Letters 1914-1918* (London: Weidenfeld & Nicolson, 2005), 184.

⁵⁶ Fuller, *Memoirs of an Unconventional Soldier*, 111-112.

Unsuitable for anti-tank defenses.”⁵⁷ Though it is unclear whether Fuller’s paper was ever read by anyone outside of the Tank Corps, his bold stance on behalf of the tanks is striking. Fuller essentially demanded a reconfiguration of British tactics based solely around the existence of the tank. Even with a few minor disclaimers about retaining infantry—“it is the infantry-man with his machine gun and bayonet who is going to decide the battle”⁵⁸—Fuller sought to replace the role of artillery with the tanks, challenging the established pattern of battle used to that point in the war.

While Fuller was pleased to compose and share his tactical ideas with other tank men, there was the harsh disillusionment of reality which presented the more pressing concern. The offensive at Passchendaele, recorded as the Battle of Passchendaele or the Third Battle of Ypres, seemed to be a step backwards for the tanks. Fuller and the other Tank Corps staff considered the plans for battle to be “none other than a repetition of the Somme tactics on a floating bog;”⁵⁹ not only was the outline of the offensive practically identical to the attack on the Somme, but there was no explicit role for tanks to play, meaning that they would be again relegated to a supporting arm of the infantry. Whether Fuller’s pride was wounded because of this apparent slight to the tanks or because it was clear that Haig and GHQ were refusing to consider Fuller’s tactical input is uncertain. However, Fuller’s reception to the orders given for the offensive at Passchendaele was negative from the outset, even before the battle itself revealed the shortcomings of the tanks.

Life on the battlefield was difficult, and the tank crews had to adapt to their unfortunate surroundings while also combatting their tanks’ natural tendency to sink into mud. However, the fact that Fuller, Elles, and most of the Tank Corps staff had accurately predicted the failure of the tanks at Passchendaele points to the lack of proper communication and lack of tactical understanding between Tank Corps staff and the staff of the rest of the British Expeditionary

⁵⁷ Fuller, *Memoirs of an Unconventional Soldier*, 127.

⁵⁸ Fuller, *Memoirs of an Unconventional Soldier*, 128.

⁵⁹ Fuller, *Memoirs of an Unconventional Soldier*, 135.

Force. Fuller and others had clearly developed a variety of tank tactics that outlined the ideal conditions for using the tanks, and though they sometimes mimicked Swinton and Stern in making overly-optimistic predictions, GHQ's inability or refusal to adapt their tactics for tanks meant that the tanks were at a severe disadvantage.

To an extent, Fuller's complaints mirrored those of other pessimistic observers at the Western Front. GHQ often seemed to be at a distance from the actual fighting, ignorant of the conditions at the front, and the myth of "donkeys directing lions" grew in popularity as historians and non-historians alike identified commanders in the First World War as disconnected from or ignorant of costly realities.⁶⁰ Haig in particular has been a widely contested figure in First World War historiography, with his intelligence repeatedly questioned and the efficacy of his methods debated.⁶¹ However, Fuller's presentation took a different tone because of the existence of the tanks. Fuller had devoted time and energy to developing new tactics, not merely to adjust to a still-shifting battlefield but to adapt to an entirely new weapon altogether. His propositions were radical, pushing defiantly against the artillery barrages that were the pride of the B.E.F. He staked his reputation on the tanks not only as they performed in reality, but on their potential successes, pointing repeatedly to the various reasons why tanks were not as effective as they could be. By trying to bridge the gap between concept and reality, Fuller found that not every officer or administrator had the same vision for the tanks as he did. Those who shared his vision earned his praise, as Swinton did; those who apparently lacked his vision, or saw alternate uses for the tanks, earned his scornful derision.

Even at Cambrai in the summer of 1917, Fuller found the glory of victory marred by changes made to his tactical plans. In the preparation for the battle, Fuller and Elles seemed to agree that the battle itself was "custom made" for tanks, having taken into consideration the various complaints made by the tank men at Passchendaele and Bullecourt. The ground was

⁶⁰ Ross J. Wilson, *Cultural heritage of the Great War in Britain* (Farnham, Surrey: Ashgate, 2013), Chapter 2.

⁶¹ Jay Winter and Antoine Prost, *The Great War in History: Debates and Controversies, 1914 to the Present*, (Cambridge: Cambridge University Press, 2005), 80.

mostly level and unshelled, meaning that tanks could reach their top speeds. The newer model Mark IV tanks had arrived in force, giving tank crews time to train and adjust to their new tanks, and Fuller proudly noted that the tank crews were no longer entirely novices, having had most of the year 1917 to train. For the tanks, the battle came at an ideal time, and the tank tacticians seemed to finally be receiving the credit they were due. Though there was still resistance to the tanks among some infantry commanders, this resistance did not prevent the tanks from performing as planned at Cambrai—though Fuller still found opportunity to complain about the lack of support.

Fuller also found fault with the plans for the Battle of Cambrai, despite the fact that some of his earlier tactics were finally being put to use. The battle plans called for a commitment of nearly all the available tanks in the Tank Corps, which satisfied the calls of Swinton and Stern in earlier battles to use all available tanks for maximum impact, but Fuller adopted a position of shock and annoyance that so few tanks were being kept in reserve. With so many tanks in action at once, Fuller predicted that the reserves were too small to allow tanks to press their initial advantage: as tanks broke down or were destroyed by the enemy, there would be insufficient reserve power to properly capitalize on any tank success. The commitment of tanks was a far cry from the “penny packets” from earlier in the war, but Fuller was so perturbed that he characterized the plans as “not a work of art, but a work of force—not the thrust of a rapier but the blow of a battery ram. ... A greater act of folly it would be difficult to imagine.”⁶² This shift in understanding the needs and limitations of tanks was partly thanks to Fuller’s own experience, in contrast to Swinton’s relative lack of experience, but Fuller was also privileged enough to work with a Tank Corps that had seen action and grown substantially in size. All the same, given the victory at Cambrai and the importance it would continue to hold for the young Tank Corps, Fuller’s complaints were short-sighted, focused too much on his own personal contributions and tactics rather than the full dimensions of an army.

⁶² Fuller, *Memoirs of an Unconventional Soldier*, 189.

It was also at Cambrai that Fuller began to turn his attention towards the cavalry. At first, his complaints focused on their system of organization: the battle plan for Cambrai called for the general of the cavalry to remain several miles away from the front lines, meaning that developments would have to be relayed back to him before he could issue orders. In line with Fuller's earlier observation about speed versus power, Fuller found this system of relays and delays infuriating, since it would rob one of their most dynamic arms of its primary advantage. If the battle relied on speed, in his calculations, then crippling the cavalry in this way would ensure that they never saw action. This later informed his judgment of the cavalry as an arm doomed to obsolescence, though he attempted to soften the blow by claiming it was simply by the decision of this general that the cavalry was edged out of action. However, it is no accident that Fuller ended a chapter of his memoir by describing the failure and doom of the cavalry before immediately titling the next chapter "Knights in Armor"—referring not to the cavalry, but to his own men in their tanks.⁶³ In Fuller's mind, the transition from cavalry to tanks was a result both of the advantages of armor provided by the tanks and of the improved tactics that tank men (including himself) offered to a modern army. Here, as in many places in Fuller's memoir, there were general references to the attitude of a Staff College populated by old, aging soldiers with no practical knowledge of war, with whom Fuller contrasted himself and other tank staff to validate the tank staff's own tactical decisions.⁶⁴

In contrast to Fuller's focus on tactical details, General Hugh Elles gave the impression of a cavalier soldier in facing Cambrai. As the commander of the Tank Corps in total, Elles had administrative authority over Fuller and the other major generals but preferred to leave the detailed discussions of tactics or military intelligence to Fuller and other members of the Tank Corps staff. Elles' understanding of tactics took a lesser position in relation to his concern for the men of the Tank Corps, and his special order given on the evening before the battle remains a key note in Tank Corps history for its personal impact, not its tactical strengths. In the order, Elles

⁶³ Fuller, *Memoirs of an Unconventional Soldier*, 192.

⁶⁴ Fuller, *Memoirs of an Unconventional Soldier*, 260.

gave some outlines of tactics, but emphasized his expectations for the assault, and most importantly—in a single sentence at the end of the order—informed the men of the Tank Corps that he would be leading the charge as part of H Battalion, commanding their lead tank.⁶⁵ Fuller and other Tank Corps staff rightly saw this move as foolhardy, for if “were we to lose Elles, our leadership would be headless,”⁶⁶ and warned Elles away from such a dramatic course of action. However, Elles never backed down, and Fuller was forced to admit that this inspiring move bolstered the courage and morale of the Tank Corps more effectively than any rousing speech or parade. Elles continually demonstrated an understanding of the morale of the tank crews that Fuller lacked in real depth. Though Fuller knew the value of training and understood the need to create a sense of brotherhood within the corps, his focus on tactics left him little opportunity to understand the personal needs of the tank crews. Elles’s position meant that he was more often visible to the men, while administrators like Fuller, Hotblack, and Uzelli were only visible on rare occasions, and it was Elles who understood and responded to the tensions within the crews themselves. Elles’s decision to ride with the tanks at Cambrai remained a dramatic note in the battle for a number of tank men, lending a deeply personal and emotional aspect to the battle.

Cambrai’s place as a day of glory for the Tank Corps cannot be overstated—the Royal Tank Regiment continues to memorialize the 20th of November every year, and the battle of Cambrai stands out most vividly in the memories and memoirs of tank men of every stripe. Fuller’s concern with tactics, however, continued to tweak the narrative of an overwhelming victory. The tanks took each point required by their orders and thus pushed the British line forward by several hundred meters, and with a far lower rate of casualties or losses than equivalent battles at the Somme or Passchendaele. However, the lack of reserve tanks prevented a thorough exploitation of their advance. Fuller claimed that had the Battle of Cambrai been classified as a “raid”, not a full offensive, the lack of momentum would not have been so surprising, yet because the efficacy of the tanks was limited to their first major movement, the

⁶⁵ Hugh Elles, “Special Order No. 6”, 1917, KCLMA Fuller/3/222/2, Kings College London Military Archives, London, England.

⁶⁶ Fuller, *Memoirs of an Unconventional Soldier*.

grand plans for a huge offensive fizzled. Without continuous forward momentum, the impact of this tank battle was limited to the dramatic advance of only two days and was insufficient to restore the war to a fully mobile conflict.

Though his critiques had merit, Fuller lacked the grace to acknowledge the progress the tanks had made. Based on the experiences of 1916, tanks needed to be deployed in large numbers, with enough surprise and minimal artillery barrage to sufficiently overwhelm the enemy. The ability to repair tanks and keep them functioning had partially helped keep the number of tanks available high, but the decision to commit nearly 500 tanks at Cambrai was certainly influenced by these lessons of earlier years. Even as GHQ seemed to be learning from earlier mistakes, Fuller saw further flaws in their plan, claiming that more reserves were necessary to sufficiently follow the offensive forward. After Cambrai, the question of supply also became more pressing for Fuller. A meeting in England, which involved not only Fuller and the Tank Corps staff but also included an admiral of the navy, a representative of the USA Army, and Winston Churchill, prompted the proposal of reducing the production of shells in order to produce more tanks.⁶⁷ Similarly, Fuller accused Haig of being too afraid to reduce infantry numbers to send more men to the Tank Corps, which would have enabled them to grow in size and create the reserves that Fuller had so wanted during Cambrai.

In many ways, Fuller was the administrative heir of men like Swinton, who had first begun outlining tank tactics before the first battalion ever reached France, but because Fuller lacked the perspective of Swinton's early efforts, he was less appreciative of the slow, subtle changes in GHQ thinking. Understanding Fuller's perspective as a tank staff officer is vital, due to his tactical understanding and approach to tank warfare, but his biases must also be understood in order to combat his incessant devaluation of non-tank commanders.

Though Fuller described Haig repeatedly, almost painfully often, Haig never mentioned or referenced Fuller. This was partially due to the difference between Haig's position and Fuller's: General Hugh Elles, Fuller's superior, was noted by name in Haig's record, while other staff

⁶⁷ Fuller, *Memoirs of an Unconventional Soldier*, 223-224.

members in the Tank Corps were not. Haig's concern with infantry, and the fact that in 1917 tank battalions were still subservient to infantry commanders, meant that though Haig did encounter tanks and continued to express his praise for them, they only acted as accessories to infantry movement.⁶⁸ This matched Fuller's evaluation of the status of the tanks through 1916 and 1917, but while Haig was content to accept this assignment of roles, Fuller evidently felt the tanks had more potential than mere accessories.

Perhaps the most disappointing absence in Haig's records is the lack of emphasis on the Battle of Cambrai in November 1917. Haig made note of the battle, in his usual detail, but the tanks remained a side issue, only noted in terms of their numbers and locations. None of the glory afforded to the tank crews nor the brilliant successes observed by Elles and Fuller factored into Haig's records, and it was only in conversation with Elles on 3rd December that Haig made note of how well the tanks had performed—and even then, he equated their counter-attack on 30th November with their actions earlier in the month.⁶⁹ In this most dramatic instance, Haig's understanding of the tanks was limited to their numbers, ignoring the larger importance of their coordination with infantry and their ability to pursue the enemy so far past their lines.

Where Haig's understanding did reflect Fuller's concerns was in the need for training. Contrary to Fuller's reports, claiming that Haig was reluctant to staff the Tank Corps as he felt 'threatened' by their presence, Haig's conversation with Elles in December 1917 indicated that Haig was well aware of the need for more tank men, and of the need to train them sufficiently.⁷⁰ There are no details of how Haig valued the importance of recruiting tank men, or how he planned to find more recruits, but he was not as ignorant as Fuller might have claimed. By the fall of 1917, Haig was trying to balance the needs of the tanks with the multiple other demands of the Western Front, leading him to send a letter to the War Office dictating: "No additional personnel beyond the number required to man such Tanks as are now in France, and those which can be

⁶⁸ Haig, *War Diaries and Letters 1914-1918*, 343.

⁶⁹ Haig, *War Diaries and Letters 1914-1918*, 356.

⁷⁰ Haig, *War Diaries and Letters 1914-1918*, 356.

completed by the 30th September should be allocated for this purpose, and all transfers to the Tank Corps now under consideration should be postponed.” Additionally, “the manufacture of Tanks should not be allowed to interfere in any way with (i) the output of aeroplanes. (ii) the output of guns and ammunition. (iii) the provision of mechanical transport, spare parts therefor, and petro tractors up the scale demanded. (iv) the provision of locomotives for railways up to the number asked for.”⁷¹

The tanks had their place, but in Haig’s understanding of the battlefield, potential returns were not enough to convince him to redirect supplies and personnel to a branch that still presented only minor advantages. Fuller’s predictions were promising, but without real results, Haig was unconvinced. The tanks could not compete with airplanes, artillery, or even “mechanical transport” like the armored cars. Tanks were their own device, which allowed their designers to focus on their role as an offensive weapon, but their inability to serve in other roles made them a lower priority in Haig’s evaluation.

Advances in 1918

As the war entered the year 1918, Fuller’s memoirs lost any reference to the tank crews and their experiences in the early Tank Corps, and instead focused even more closely on his tactical perspectives. His earlier speeches and recollections of training new recruits were lost within the rush to produce more tactical papers and arguing for more tanks in an atmosphere apparently prejudiced against the tanks. His arguments returned to familiar themes: producing more tanks would save more lives, meaning that a simple investment in tanks now would end the war more quickly and prevent further losses (both physical and financial) from draining the British war economy. Fuller and Elles also seemed to agree that “every effort should be made to supplement the man-power at our disposal by machine-power:”⁷² the infantry was not entirely

⁷¹ Douglas Haig, Letter in Memorandum on the formation of tank armies, 1917, page 13, WO 32/5933, British National Archives, Kew.

⁷² Fuller, *Memoirs of an Unconventional Soldier*, 229.

useless, but for Fuller, the tanks were becoming an irreplaceable supplement for the infantry. His awareness of larger movements within the British Army was no longer limited to sniping at Haig or bemoaning the blindness of GHQ, but instead, he turned his efforts to arguing along the same lines as other tacticians.

The plan for 1918 was for the B.E.F. to adopt a defensive position and hold out on the Western Front until American armies arrived,⁷³ prompting Fuller to develop arguments against this proposition as both a tactician and as an invested Tank Corps staff officer. First, he argued that the Germans would attempt to end the war before the United States of America could commit to the war. This prediction would prove correct as Russia withdrew from the war and allowed the German army to redirect more manpower from the Eastern Front to the Western Front. With a renewed German offensive, the British army would have to fight just to maintain its defensive positions, while a more offensive approach might allow the British to choose the location of their advances and ensure that the Germans did not advance further.

Second, Fuller believed the tanks would suffer if forced into defensive positions. In his words, “passive defense for tanks was an absurdity,”⁷⁴ and the tanks performed best in offensive maneuvers, not in fights to hold their ground or retreat. The utility of the tanks came from their mobility and their guns, but these advantages would be lost if the tanks were taken by surprise or forced to rush into action on ground unsuitable for them. Defense with the tanks was possible, but only as a series of offensive raids, exhausting an enemy’s advance before he penetrated the line fully.

Third, with an argument even more focused on the tanks and their production, Fuller claimed that the Germans were still unprepared to defend fully against tanks, meaning that a strong offensive as soon as possible would enable the tanks to make their maximum impact before the Germans devised anti-tank measures. This claim is somewhat disingenuous: the

⁷³ William James Philpott, *Anglo-French Relations and Strategy on the Western Front, 1914-18*, (New York, St. Martin’s Press, Inc.: 1996), 150.

⁷⁴ Fuller, *Memoirs of an Unconventional Soldier*, 231.

German army had already begun to enact anti-tank measures as early as Bullecourt, and had captured British tanks, but Fuller's immediate concern was the rumor that Germany was at work designing its own tanks.⁷⁵ In contrast to his first point, this was the concern that was least well-founded, as the German tanks deployed in the First World War saw minimal action and proved less effective against the British tanks than shelling. The real impact was seen from anti-tank rifles, which used armor-piercing rounds to penetrate the tanks, and it was the battle of Cambrai that prompted German designers to invest more thoroughly in specific anti-tank weapons.⁷⁶ Even these developments had minimal effect, and the real challenge that Fuller chose not to address was the fact that tanks still had more to fear from artillery than from specific anti-tank weapons. Either by conveniently ignoring the threat of artillery, or by mere ignorance of its existence, Fuller's arguments regarding German anti-tank measures focused on possible retaliations rather than the existing problems and did little to propose solutions to the existing obstacles. With an impressive level of detail, Fuller's arguments predicted and outlined a well-developed system of tank warfare, but his repetitive missives to GHQ and his eternal frustration reflected his pessimistic premonition that his arguments would never be fully considered.

As the war progressed into 1918, Fuller began to expand his tactical papers to more fully include infantry, artillery, and airplanes, outlining a system by which these three groups would work with tanks in order to occupy the enemy and wear down his reserves.⁷⁷ His writing also began to turn more political and strident in tone, pointing to a British citizenry disillusioned with the war and angered by delays. To Fuller, if GHQ would only accept his tactics and agree to the increased production of tanks then the war could be concluded and the populace satisfied. Mechanical warfare, which was defined by the tanks, would solve every problem if only GHQ would allow it. In a dramatic analogy (and one of Fuller's few references to religion in his personal biography), Fuller compared the abilities of the tanks and the reaction of the GHQ officers:

⁷⁵ Fuller, *Memoirs of an Unconventional Soldier*, 227.

⁷⁶ "German Anti-Tank Weapons", Weekly Tank Notes, 1918, MUN 4/6498, British National Archives, Kew.

⁷⁷ Fuller, *Memoirs of an Unconventional Soldier*, 331-333.

This morning reminded me of the heathen gods descending from Olympus to watch the advent of Christianity. What they saw was so superior to anything they could do, that they at once realized there was no place for them in the new order, so they went back to their cloud-home determined to destroy it.⁷⁸

Fuller's consideration of airplanes is worthy of note because of similarities and differences between the tanks and the airplanes used during the war. Airplanes saw use in the First World War originally as reconnaissance machines, equipped with cameras to photograph enemy lines from above. As the war progressed, airplanes on both sides quickly outgrew their reconnaissance uses, and could signal directions or drop bombs.⁷⁹ Fuller's inclusion of airplanes as another branch of the army has more to do with their aerial capabilities than their firepower, but he was familiar with the methods used by airplanes to signal tank battalions on the ground. Though he did not defend them or fight for them as strongly as he did for the tanks, Fuller may be excused this bias due to his position on the Tank Corps staff. However, Fuller did not invite dramatic contrasts between airplanes and tanks, despite their similar novelty and their potentials to revolutionize warfare. For him, the tank was still the primary object of mechanical warfare.

As Fuller returned to France, he continued his campaign of writing and messaging, attempting to make some headway in either increasing the production of tanks or of standardizing a new program of tank tactics to be taught to all tank battalions. At this time, he also composed the early sketches of "Plan 1919," the next tactical step after the projected outcome of 1918. There was always a need for more tanks, seen first at the Somme, as Swinton argued and Stern claimed that there were barely enough tanks to be effective, then at Cambrai, as Fuller bemoaned the lack of reasonable reserves. The peak of this need was revealed in "Plan 1919," the crowning achievement of the Tank Corps had the war not ended in November 1918. Fuller, among others, had begun expanding Martel's earlier ideas of a tank army; with the introduction of Whippet tanks and the expansion of gun-carrier/supply tank divisions, tanks could reasonably

⁷⁸ Fuller, *Memoirs of an Unconventional Soldier*, 238.

⁷⁹ Nigel Steel and Peter Hart, *Tumult in the Clouds: The British Experience of the War in the Air, 1914-1918*, (London, Hodder and Stoughton: 1997).

perform multiple duties, and act in supporting roles to carry an offensive almost entirely with tanks.⁸⁰ Plan 1919 formed a grand tactical doctrine in which tanks would form a central part of offensive maneuvering, and the production of tanks was necessarily increased to meet the need for such a large number.

Before this doctrine saw any traction, however, Fuller only met with disappointment. The tanks spread out across the Western Front so as to make the accumulation of reserves even more difficult, and the issue of supplying all the tanks formed a logistical nightmare for the Tank Corps staff. As tanks slowed to a halt due to lack of petrol, they were reorganized or reformed into Lewis-gun companies, prompting Fuller to revisit his tactical notes on Lewis-gun Battalion Organization. Fuller also made mention of his visits to the battlefield, bolstered by the visits of his GSOs (Martel, Hotblack, and Boyd-Rochfort).⁸¹ At a time when GHQ seemed uncertain of their approach, and in light of the repeated idea that GHQ was ignorant of the conditions of the front lines, Fuller's presence at the front bolstered his own credibility as a tactician and officer. While he lacked Elles's charisma, Fuller still appreciated the conditions of the front and the struggles facing the tank crews, even if he never saw action in the tank himself. Furthermore, Fuller worked hard to produce tactical manuals for consumption by tank crews, noting that his quick writings might not have been so savory to higher officers since they were not in "General Staff language."⁸² Even for Fuller, who had the authority and experience to claim a higher rank than the average tank crew member, there remained a division in expectations and limitations between Tank Corps staff and the rest of the B.E.F.

The early months of 1918 were characterized for Fuller by a system of raids. With the tanks spread so far across the line, the best that could be expected would be minor breakthroughs, predicated on close coordination between infantry and the tanks. However, though the tank crews had expressed their greatest fears about disbandment or the abolishment

⁸⁰ Fuller, *Memoirs of an Unconventional Soldier*, 322.

⁸¹ Fuller, *Memoirs of an Unconventional Soldier*, 258.

⁸² Fuller, *Memoirs of an Unconventional Soldier*, 264.

of the Tank Corps at the Battle of Passchendaele a year earlier, Fuller's worries about the Tank Corps' future were only sharpened by these months of raids. Battalions were reduced and reorganized without consultation with Fuller or Elles, and it was only the arrival of Winston Churchill (then the Minister of Munitions) who came to Fuller as a heroic savior, promising the construction of a new tank factory in France for the common use of the Allied Powers. Although Fuller had been aware of the construction of French tanks, they had played little part in his tactical designs; now, with the French investing more intently in their own tanks, Fuller found a new position to play as part of the Inter-Allied Tank Committee, and gratefully congratulated the perspective of a French High Command that believed "tanks were infantry savers, and consequently, it was essential that large numbers should be built."⁸³ Instead of focusing on the battles taking place, like the battle of Amiens or Arras that were occupying the men of the tank crews, Fuller was investing himself more heavily into the position that would seem to use his talents most fully. The winter of 1917-18 had forced Haig and the British G.H.Q. to coordinate ever more closely with French commanders to draw up strategy, and this pooling of resources followed the creation of joint staff and initial attempts at cooperation.⁸⁴ Though British administrators were hesitant to accept input from French commanders, the tank factory was constructed as needed, using French laborers and prepared to produce British designs. Apparently not biased by national pride or lingering xenophobia, Fuller embraced the involvement of the French and of the newly-arrived Americans, eager to see tanks used by all three armies.

Fuller's work was not yet done with GHQ, however: in May, Mark V tanks finally emerged from their production lines and were coming to France piece by piece, while communications and letters from England reinforced Fuller's earlier ideas about tank organization and instructed Haig (and others) to avoid breaking up tank battalions or reorganizing them at will. The attention of the French to tank matters may have also influenced GHQ's decision to supply more men for the Tank Corps, though the shipment of Mark V tanks also required the arrival of new crews. Fuller

⁸³ Fuller, *Memoirs of an Unconventional Soldier*, 271.

⁸⁴ Philpott, *Anglo-French Relations*, 150.

found the Tank Corps triumphant, finally appreciated as a separate, unique arm of battle, and not merely subservient to the infantry and no mere replacement for cavalry. In his estimation, Haig simply could not conceive of this, and thus had resisted the tanks—however, with orders from above and the pressure of French interest, the Tanks flourished under Fuller’s tactics more profitably than they had throughout the war.

Fuller quite consciously described the struggles with GHQ as a battle in their own right, a “paper war” that consumed his time and energy.⁸⁵ He, alongside the other Tank Corps staff, had been engaged in a flurry of letter-writing, pamphlet-producing, and visit-making to sway GHQ, and as the spring of 1918 came to an end, Fuller looked back with regret at the time they had wasted. The Tank Corps had justified its existence through victories on the battlefield, and emerged from 1917 with valuable experience, but as the staff had been so occupied with negotiating with GHQ, they had neglected the training and preparation that would make their newer tank battalions fit for battle. As Fuller turned his attention back to training, he continued to find reasons to praise French intervention, praising their training methods and tank battalions: “They were wonderfully intelligent when compared to British soldiers, and their enthusiasm in their training was unbounded.”⁸⁶ As the French army, and later the American army, was included in the training and use of tanks, Fuller began to consider it a priority that the Tank Corps be acknowledged as a vital part of the British army, since that legitimacy would allow them to coordinate more thoroughly with the tank sections of other armies. Fuller began to move between the concept of a strictly British Tank Corps, proposing methods of reorganization to facilitate communication, and the ideal of a united Allied Tank Committee, which was difficult to coordinate when each army was still unsure of the position of tanks within their organization.

Events on the ground still had the power to command Fuller’s attention, and though he did reference the glory which various tank battalions earned through the spring and summer months of 1918, it was the Battle of Hamel on July 4th that he credited as a turning point in the

⁸⁵ Fuller, *Memoirs of an Unconventional Soldier*, 277.

⁸⁶ Fuller, *Memoirs of an Unconventional Soldier*, 279.

understanding of tank tactics.⁸⁷ For Fuller, it was mere common sense: the Battle of Hamel simply exemplified the potential of the tanks, using them in an aggressive raid to capture only a few miles at a time while counteracting the German advance. From the perspective of morale, the raid was a great boon to the general army, and the fact that no tank personnel were lost in the attack made a great impression on non-tank commanders. At last, the tanks had the numbers, the training, and the proper bureaucratic support to make a difference. Fuller was delighted, not merely by the success of the tanks but by the newfound respect and assistance he gained in working with other staff members. He emphasized the need to coordinate with the French and won for himself the ability to travel between England and France freely, reorganizing his routine duties for others to take on.

Fuller referenced two further battles, one on August 8th and the later Battle of Amiens, as further notes of success for the Tank Corps. Fuller's greater concern, beyond the real accomplishments of these battles, was his planning for "Plan 1919." Plan 1919 had existed as a concept in the mind of Fuller, Martel, and d'Eyncourt, who all planned for great numbers of tanks to form "tank armies", not merely tank battalions. While the tank crews fought their battles of petrol and steel, Fuller concerned himself with defending a doctrine predicated on the production of thousands of tanks. He partially blamed the novelty of tanks for the resistance he met: since tanks were so new, his correspondents in England and in GHQ could not understand how to use them properly. Again, Fuller characterized Haig in particular as resistant to the increases in tanks; while Fuller recognized tanks as "the superior weapon,"⁸⁸ their moderate usage made it difficult to prove their utility until they were present in larger numbers. By June of 1918, GHQ and the War Office finally agreed with Fuller that an increased production of tanks was necessary if the war was to end in 1919, and this news prompted Fuller to compose the first full doctrine of Plan 1919. Though it was similar in many points to his earlier writings, it is important to note that Fuller took into consideration the creation of supply tanks and the development of current tank models,

⁸⁷ Fuller, *Tanks the Great War, 1914-1918*, 204.

⁸⁸ Fuller, *Memoirs of an Unconventional Soldier*, 321.

rather than speaking generally about armor and mobility. Fuller also brought up the possibility of using naval tactics in conjunction with traditional infantry and artillery tactics, hearkening back to the early years of the “Landships Committee” and the early naval influences of the tanks.

Mobility, armor, and mechanization formed the cornerstones of Fuller’s doctrine. In Plan 1919, Fuller explicitly identified mechanical power as an element of the tank that would force an army, and indeed even a nation, to reconsider its approach to war. Mobility and armor were themes that had been present in war throughout the centuries, though Fuller claimed never as fully realized as they would be in tanks, but mechanization was an element totally new to warfare. Saving manpower by replacing it with machine-power not only reduced the need for huge armies of infantry but had the potential to reduce casualties.⁸⁹

Fuller was justifiably proud of his production of Plan 1919, and his next task was to pass this document up the chain of command. The Battle of Hamel helped, in that it gave him additional material with which to convince commanders of the utility of tanks, but he found that it was the growing confidence engendered in infantry divisions that helped the tanks most. Though the Australians had derided the tanks early in their deployment, the raids of 1918 restored their confidence and convinced both average troops and their commanders that the tanks had real value. Fuller also credited the involvement of the French General Foch for the new support for tank offensives, since Foch was more enthusiastic about the tanks than General Haig, and plans were made for a decisive offensive to take place early in 1919, once thousands of tanks were available for all three armies (British, French, and American) to use in tandem.⁹⁰ The battle of August 8th, and the last Hundred Days of the war, soon saw this plan made moot, but its adoption among GHQ was one of Fuller’s proudest achievements.

Despite Fuller’s derision of General Haig, the Hundred Days saw Haig’s greatest strength—his stubbornness—finally put to good use in Fuller’s eyes. The pressure of the Allied offensive was assisted by tanks, though directed by Haig, and Fuller found a bitter irony in the

⁸⁹ Fuller, *Tanks in the Great War*, xviii-xix.

⁹⁰ Fuller, *Memoirs of an Unconventional Soldier*, 361.

fact that Haig's victory should be won by the very machines he had ignored for so long. Despite his position as a man of tactics and logic, Fuller still attached his personal dignity to the tanks themselves, and after having positioned Haig as his primary opponent, the fact that Haig should lead the Allies to victory annoyed Fuller.

The raids of 1918 made little impression on Haig's memory, but their lessons were not unnoticed. The development in models was evident even to Haig's untrained eye, and the coordination of barrage, tank, then infantry demonstrated an exercise that to Haig was "more effective and much less costly to us."⁹¹ The use of barrage is notable, simply because Fuller and other tank men had been trying to argue against the use of barrage at all. Artillery barrages, when laid down before an offensive maneuver, often allowed the German army to predict the likely position of the offensive, and also made the ground much rougher and less stable. In Fuller's doctrine, which called for swift, unpredictable movements led primarily by tanks, artillery barrage did more harm than good. However, it is clear that even in 1918, this doctrine had not filtered through the British army enough to influence tank tactics in reality. While Fuller might have blamed this lack of change on the stiffness of GHQ thinking, or the obstinacy of Haig himself, there is a note of naivety in expecting the entire tactical doctrine of the British army—an army beset by uncertainties and exhausted after years of war—to change merely on the introduction of the tanks and Fuller's impassioned pamphlets. Though Haig's records were far less emotional and less invested in the tanks than were Fuller's memoirs, Haig's impressions reflected more of the reality: the tanks in 1918 were more effective than in 1917, even without Fuller's radical changes, and Haig was fully prepared to use them as best he could.

The action in August 1918 illustrated Haig's approach to tank warfare most thoroughly, namely because there were enough tanks for them to coordinate with multiple infantry divisions at multiple locations. Haig's generals, General Lambert and General Byng, had tanks available for the month of August, though Haig did not describe their tactical plans. However, the availability of tanks reinforced Fuller's impression of August as an important month for the Tank Corps, and

⁹¹ Haig, *War Diaries and Letters 1914-1918*, 436.

even as the Hundred Days began, the tanks were in good standing for Haig, his subordinates, and the Tank Corps themselves. Their numbers might have been strong, but the Hundred Days Offensive proved taxing for their meager resources, and the workshops in France were unable to recover tanks fast enough to keep up with the pace of the front during the Hundred Days. Just as at the Somme, the lack of sufficient numbers of tanks prevented the tanks from dominating the battlefield. However, Fuller did not have Stern or Swinton's apprehension to using tanks in small numbers. His experience with the tanks on the front had given him enough evidence that tank raids could have a significant effect on the enemy's movement, and he was more concerned with having the tanks see action than on the specific numbers used in that action. The early months of 1918 had given the Tank Corps staff examples of profitable tank raids, but the movement of the Hundred Days Offensive gave them little time to arrange raids to their liking. "They [the tanks] frequently suffered high losses as a result of not being used in greater numbers, being spread too thinly across a broad front, and without due regard to their vulnerabilities."⁹² The proposal to wait for ideal deployment circumstances as outlined by Fuller was ignored in favor of using the tanks as they became available.

This use of the tanks, which also prevented them from building up sizable reserves as Fuller had wanted, reinforced the perception of the tanks among non-Tank Corps officers that the tanks were adjuncts to the infantry. At times, tanks could work on their own in planned movements and see great successes, but the realistic needs and the movement of the B.E.F. in 1918 left little room for the tanks to develop as an arm or a force of their own. Though it was easy to blame GHQ or the War Office, as Fuller did, for the lack of tanks available, men like Stern who supported the tanks remained in positions of influence in the War Office and continued to coordinate the needs of supply. The tanks earned the attention they needed, but there was simply not enough time and not enough material to give the tanks the opportunity they needed.

Just as the tanks did not arise from one specific designer or inventor, the difficulties they faced were not the result of a single area of resistance or ignorance. The tanks repeatedly

⁹² Roger Blaber, "Tanks in the Hundred Days 1918: A Diminishing Resource", in *British Journal for Military History*, 2, no. 1, (2015), 119.

demonstrated their inefficiency in specific conditions, yet their promise was so great that multiple men of various ranks attached their careers to the tanks to force them into production. Fuller put this sentiment into words when he detailed how mechanical power would outpace manpower in the coming years, and his arguments for the use of tanks focused on the mechanical aspects of tanks that enabled them to perform better than their infantry or cavalry equivalents. The mechanical argument clearly captured the imagination of the War Office, given the attention that repeatedly returned to the tanks from 1914 to 1916, and even while the initial tank models proved unexciting their production never ceased completely.

For tank manufacturers, tank tacticians, and high commanders alike, the tanks were a good investment because of their potential for substantial advances on the battlefield. Haig believed the tanks could be effective in battle, and supported their production early in 1916; Fuller and Stern continued to argue that the tanks could be effective under the right circumstances, and fought to give the tanks the proper opportunity to display their utility. However, the end of the war in 1918 and the fact that Plan 1919 never came to fruition prevented the tanks from reaching the high point of their potential success. From a tactical standpoint, the tanks were always a potential, with little to guarantee their utility, thus their supporters had to reach for other aspects of the tanks to justify their existence. The infantry remained the primary force of the B.E.F., as the tanks lacked the numbers and the real evidence to support a total movement towards mechanization. Tanks needed to see action in order to provoke the development of better, updated tank models, but the delays and shortages incurred in ordering new models stalled real development, and made the tanks outdated almost as soon as they saw action. Most tank administrators would only realize this in hindsight once they could compare the models against one another: Major Hotblack, looking back on the experience, believed that “the first tank which was really war-worthy was the Mark V which was used in numbers on 8 August 1918.”⁹³ However, without the long history or full support of the administration that infantry divisions enjoyed, the administrators of the Tank Corps still developed deep attachments to their roles and to the tanks themselves.

⁹³Private Papers of Frederick Hotblack, catalogued 1973, Box No. 76/136/1, Imperial War Museum London, London, England.

The fascination of the tanks kept men like Stern and Fuller involved with the development of the tanks, attaching their reputations to untried machines. A buoyant optimism, coupled with the ability to shift blame away from one's department and onto the higher administration, kept the early Tank Corps officers from falling into despair, and by defining their work as a "paper war" against the prejudices of GHQ, tank officers justified their efforts on two fronts. Not only would they usher in a new age of warfare by promoting mechanization, but they would help to dismantle a stale and calcified Staff College mentality for the better of the British Army. The men who fought for the tanks in this sense created for themselves a tactical niche and a unique identity, justifying themselves in both the present and future by their efforts.

CHAPTER 2

Though the designers and engineers of England appreciated in the tanks for their theoretical utility, they were not the men who crewed the tanks in battle. Groups of men, trained in the use of the guns in the tanks and instructed in the mechanisms for driving the tanks, were initially under the command of infantry commanders, and lacked both the numbers and the organization to dictate their own movements. Though tied closely to the infantry and artillery, tank crews were not fully included in either group, and the shared experiences of tank crews slowly gave shape to a shared unit identity. Whether on the battlefield or off it, tanks united their crews in common education and experience, allowing tank crews to develop an identity around their shared experiences and their position within the British Expeditionary Force.

The initial deployment of the tanks was a confusing affair, subject to the commands of the British commander Sir Douglas Haig and restricted by the lingering concerns of the tank developers in Britain. The men recruited for the tank crews were educated at tank training camps and put through a system of education that established them as tank crew members, but this degree of separation did not prevent them from experiencing the trauma of the front lines alongside their infantry counterparts. In addition to these stressors, tank crews also had concerns about the administrative position of the tanks, and tank commanders recognized their unique position as pioneers of the new weapon even as they faced the potential dissolution of the tank units after a lack of positive results. The creation of the Tank Corps gave the tank crews legitimacy as a unit, and the increasing number of tanks contributed to more tank victories through 1917 and 1918. By the end of the war, the Tank Corps had become a significant fighting force, with the administrative strength to work independently of other branches and the experience to enter a battle with confidence in their own abilities.

Initial Battles

The first battle of the tanks was the Battle of Flers-Courcelette on 15 September, 1916, and was part of the larger Battle of the Somme. The Somme offensive began in July of 1916, but

the development of the tanks had encouraged Haig to use them as soon as feasibly possible instead of waiting for the offensive to conclude. There existed some tension between the hopes of Haig and the realistic expectations of men like Stern: the official Tank Corps history records that there were not enough tanks produced and delays were consistently urged by the men overseeing their development. However, Haig “was convinced that the advantages outweighed ‘the disadvantages of making known to the enemy the existence of these new engines of war’.”⁹⁴ Haig had by this time already been appointed as Commander of the British Expeditionary Force (B.E.F.) on the Western Front, but his ability to strongarm the tank designers into sending the tanks early reflected his own perception of the war and the promise of the tanks. It is somewhat unfair to position only Haig as the antagonist in this miniature drama, but the military author Sir Basil Liddell Hart and officers Stern, Swinton, and Fuller rarely offered another example of a high-ranking officer who made excessive demands of the tanks without understanding their capabilities. Regardless of the political and tactical arguments in play, the tank crews were shipped to France with Mark I tanks and considered part of the Machine Gun Corps (Heavy Branch) for the purposes of coordination and deployment in their first military action.

For the men trained to crew the tanks, the lack of practical experience with tanks given their quick deployment was easily overcome. Most men were drawn from the Machine Gun Corps, the branch to which the tanks were first assigned, and their training with the Vickers and Lewis machine guns were enough to qualify them to operate the guns on a tank. One hurdle was the mechanical bulk of the tanks: easily over 25 tons each, turning a Mark I tank required the coordination of three separate men, all inside the enclosed metal box of the cab. (This held true for the later Mark IV as well, but was resolved by the production of the Mark V.)⁹⁵ The engine lacked adequate exhaust ports and filled the cab with noise, meaning that the driver of the tank

⁹⁴ Hart, *The Tanks*, Vol. 1, 64.

⁹⁵ Royal Armoured Corps Tank Museum, *Tanks: the First World War, 1915-1918*, (Bovington Camp, Dorset: R.A.C. Tank Museum, 1956), 7.

was forced to tap or kick the man beside him to indicate a change of gear.⁹⁶ Before tanks were provided in large quantities, tank crews sometimes did not even have a tank with which to train, and were forced to practice maneuvers by carrying a wood and canvas model, much like a hunting blind, on their shoulders.⁹⁷ While administrators and supply coordinators worked to improve the tank designs, early tank crews filled their time with training, doing their best to prepare for battle despite the novelty of their tanks.

Though the tank crews worked hard to train with their tanks, with less than 50 tanks available by September 15, 1916 a high rate of mechanical failure reduced the number of tanks significantly. Transporting the tanks and crews from their training camps to the front lines occurred without incident, but seventeen tanks failed to reach their starting points on the morning of the battle.⁹⁸ Further losses from shelling and ditching (when tanks would fall into shell holes or trenches and become stuck) also prevented tanks from reaching the action, and the actual impact of the tanks was minimal at best. Mechanics did their best to try and rehabilitate tanks in time for action, but a lack of practical experience with complicated repair work and a lack of appropriate supplies made it difficult to effect repairs quickly. Haig's hoped-for demoralization of German troops was limited to those troops who actually saw tanks—not the entire front, but only sporadic trenches—and where the tanks were able to make breakthroughs, they rarely saw action alone. It was the close coordination of infantry and the tanks that reliably guaranteed movement forward, and this pattern would hold true for much of the war.

For those tanks that truly saw action, the first battle was a proud moment. A particularly newsworthy instance, where a tank paraded down the street of a recaptured French town, held weight for both tank men and their infantry counterparts. The image of proud British soldiers, surrounding a tank with smiles, was a public relations victory for the tanks to accompany their modest successes. After the initial battle, life returned to a semblance of normal for the newly

⁹⁶ A. H. Reiffer, sound recording, 1963; catalogue no. 4212, Reel 1; Imperial War Museum, London, England.

⁹⁷ William Watson, *A Company of Tanks*, (London, William Blackwood and Sons: 1920), Chapter II.

⁹⁸ Stern, *Tanks, 1914-1918*, 94.

christened tank crews, where decisions made by higher commanders organized and reorganized the tanks over time. However, the growth of the tank groups meant that battle experience became a rare commodity, and new recruits “looked with awe” at the men, now officers or lieutenants, granted command of a tank after participating at Flers-Courcelette.⁹⁹ The issue of secrecy was a concern no longer, as William Watson noted upon his transfer in January of 1917, since officials shouted for tank recruits to board the trains, the purpose of the trains to the tank depot was publicly known, and even in the hotel discussion of tanks was audibly rampant.¹⁰⁰

Men who were not in the Tank Corps began to contextualize the tanks within the network of the army. A gunner with the Machine Gun Corps, Alexander Wright, considered accepting recruitment into the tank crews, but turned down the offer: “They [casualties] must have been colossal in the Tank Corps. ... They went back to billets, which were heaven to us, and...got the benefit of extra rations now and again, but I was not sorry that I didn’t have to go over to the Tank Corps.”¹⁰¹ Wright afforded the tank crews a level of elitism above even that of the general Machine Gun Corps, but this came more from their allocation of resources; like the men of the Royal Flying Corps, the tank crews were given specific quarters separated from the front lines, clustered in ‘tankodromes’ that mirrored the RFC’s aerodromes.¹⁰² Since the tanks still required some degree of secrecy, tanks and the men that crewed them remained further behind the front lines, and thus had a more relaxed living situation as opposed to the infantrymen at the very front. The tank crews did not live in trenches, and this fact alone gave them a level of “luxury.”¹⁰³ Despite these benefits, Wright’s concern over the amount of casualties influenced his relief at

⁹⁹ Williams-Ellis, *The Tank Corps*, 39.

¹⁰⁰ Watson, *A Company of Tanks*, Chapter II.

¹⁰¹ Alexander Wright, sound recording, 1977; catalogue no. 33696, Reel 2 (3:30); Imperial War Museum, London, England.

¹⁰² Steel and Hart, *Tumult in the Clouds*, 24.

¹⁰³ Bertram Steward, sound recording, 1986; catalogue no. 9279, Reel 4; Imperial War Museum, London, England.

avoiding the tank crews, illustrating that even the lure of material comforts was not always enough to convince potential recruits of the value of the tank crews.

Absorbing men with varied backgrounds required the tank commanders to administer basic training, and thus the Mark II tanks appeared in training exercises at a camp established in Bovington, England, to familiarize men with the guns and gears of the tanks. These were similar enough to Mark I tanks so as to encourage effective training, and Mark IIs were sent to France periodically during the early months of 1917 when the promised new model, the Mark IV, was not produced in time for effective action.¹⁰⁴ Balancing the demands of the training camp with the output of British factories and the needs of the active units at the front placed an even greater pressure on the administrators and organizers of the tank project within the War Office, men like Stern and Ellis who had already worked long and hard to produce the existing tank models, and tank crews occasionally ended up in administrative limbo as new recruits were left without tanks to use for training or even to take into battle. Though the tanks and their crews had seen action in September 1916, they were little more than machines and men thrown together in a jumble of command and training, lacking the organization and unit cohesion that lent established divisions much needed morale. However, training would form an important step in satisfying this need, and the collection of recruits into their training camps helped provide a common ground for newcomers to enter the world of the tanks.

Joining the Tanks

Early recruits for the tank crews came from the divisions of the Motor Section of the Machine Gun Corps, relying on their experience with combustion engines to inform their work with the tanks. However, recruitment efforts did not stop with the Machine Gun Corps, and men from civilian and military circles alike found their way to the tank crews. Though unified by their interest in the tanks, most new recruits had little else in common, and the new tank commander William Watson noted that “[t]hey trail along like a football crowd. They have no pride in their

¹⁰⁴ Hart, *The Tanks*, 96.

appearance, because they cannot feel they are on parade. They are only a crowd, not a company or regiment. Corporate pride and feeling are absent.”¹⁰⁵ Recruitment had brought these men together, but had not given them a collective identity; until late in 1917, the tank crews did not even have an emblem or banner under which to unify. Though the senior officers and commanders would do their best to instill a feeling of camaraderie, the men themselves found their own ways to establish commonality. For one Sergeant Littledale, it was not the spirit of brotherhood or similarity that drew men into the tank crews, but a “spirit of adventure,” which served to sustain them through the weeks of training and the chores of mechanical maintenance.¹⁰⁶ The corporate singing of a wartime song, “Fred Karno’s Army,” which referenced the chaos of a popular comedian’s troupe, gave them a collective purpose and provided the first step towards fellowship.

Another newly appointed commander, Captain Daniel Hickey, though born in Argentina, believed himself a Briton through and through, and when the war began in 1914 he was eager to sign up for the B.E.F. His impetus for joining the tanks, when they became available in 1916, was a fascination with machinery, and a tank poster outside a recruitment office sparked his imagination further.¹⁰⁷ It was the visual depiction of the tank, emphasizing its mechanical nature, which attracted this young soldier to its service. His mechanical interest was hardly unusual, as Hickey went on to relate the personalities of his young subordinates, one of whom “knew the engine of a motor-cycle inside out.”¹⁰⁸ The Heavy Branch of the Machine Gun Corps became a collecting ground for military personnel with a knowledge of or interest in machinery. Hickey’s entire journey from schoolboy to soldier was one defined by machines: his initial aim in signing up was to be a driver of a military car; he avoided being sent to Gallipoli by suffering a concussion

¹⁰⁵ Watson, *A Company of Tanks*, Chapter II.

¹⁰⁶ Harold A. Littledale, “With the Tanks, I. Anatomy and Habitat”, in *The Atlantic Monthly*, Dec. 1918, 836-848.

¹⁰⁷ Daniel Edgar Hickey, *Rolling into Action: Memoirs of a Tank Corps Section Commander* (Uckfield, England: Naval & Military Press, 2007), 25.

¹⁰⁸ Hickey, *Rolling into Action*, 45.

in a car accident in 1915; the time he spent on coursework in Britain gave him the technical knowledge of Lewis guns which made him ideal for appointment to the Machine Gun Corps; and his study of engines allowed him to maneuver into a superior position upon being appointed to the Heavy Branch.

The division between other infantrymen and the crews of the tanks never came under scrutiny in Hickey's evaluation, but the lack of references to non-tank personnel indicated to what extent the tank crews and their captains were segregated from non-tank infantrymen. The loss of a group of 13 tank crew members during an easy road repair mission provoked the displeasure of commanding officers, who questioned the wisdom of having tank crews "doing the work of a labour gang."¹⁰⁹ There was evidently a value to tank crews beyond their mere physical ability: a technical aspect of tank crews and their training made them more valuable than the average working soldier. Hickey's own experiences with non-tank infantry divisions spoke to the perceived values within each group. "I had not been happy with the Suffolks [another regiment]; principally I imagine because I did not belong to the county; with the tanks I was absolutely at home, because it seemed to me that I was pulling my weight, and that my work was being appreciated."¹¹⁰ With the mechanical emphasis of the tank crews, tank recruits could find value and community in this shared interest instead of relying on pre-war residences to define their unit.

For Harold Littledale, having been recruited after the battle of Flers-Courcelette, the majesty and glory of the tanks had been his first impression: upon reaching the tank crews in person, he realized his hopes had been artificially inflated.

So much had been printed, after their first appearance in battle, of their freakish appearance and their great size, that we expected something far more strange in design, more monstrous, more dragon-like, and twice as big. ... We were disappointed, too, to find that the tank could not do all that we had heard it could do. We had quite expected to climb to the house-tops, or, failing that, to go right

¹⁰⁹ Hickey, *Rolling into Action*, 85.

¹¹⁰ Hickey, *Rolling into Action*, 145.

through houses, to uproot great trees, and to waddle through wide rivers. The newspapers had depicted the tanks doing all these things.¹¹¹

The movement from infantryman (or cavalryman, or sailor, or pilot, or artillery gunner) to a member of the tank crews was also not a movement devoid of personal loss. Whatever the “spirit of adventure” might have compelled in a recruit, the moment when he learned of his transfer could provoke a sense of melancholy as he abandoned the men of his former group, with whom he had shared the hardships of war up to that point, for a new unknown horizon. Without time to say farewells, the new tank crewman would be sent through France to reach the depot where tank recruits received their new classifications.¹¹²

Though men with experience in mechanical matters and others trained in artillery arrived as recruits at the depot, Littledale’s experience recorded that the exact method for assessing a man’s proficiencies was a mystery. According to Littledale, some mechanics went to the gunners’ company, while gunners ended up among drivers, but in the end, Littledale observed, “it did not matter much, for each driver had to qualify as a gunner, and each gunner was given an elementary tank course.”¹¹³ Ernie Hayward, an artillery man at the time of his transfer to the tank crews, made the same observation, claiming that though he had not entered the crew as a driver, he certainly left as a driver.¹¹⁴ Arthur Jenkin (recruited after entering the Royal Engineers) also made note of this curious method of assignment, since “only those with ‘mechanical’ inclinations are suited” to be drivers: the subsequent assignment and training of men without this inclination as drivers was, for Jenkin, a sorry waste of uninspired men.¹¹⁵ Beyond mere interest or mechanical proficiency, training began to establish further common ground among tank recruits,

¹¹¹ Littledale, “With the Tanks”, 838.

¹¹² Littledale, “With the Tanks”, 839.

¹¹³ Littledale, “With the Tanks”, 840.

¹¹⁴ Ernie Hayward, sound recording, 1977; catalogue no. 7029, Reel 1; Imperial War Museum, London, England.

¹¹⁵ Arthur Jenkin, *A Tank Driver’s Experiences, or, Incidents in a Soldier’s Life*, (Elliot Stock, London, 1922), 46.

letting them confront the administrative confusion with the realization that all the recruits were facing the same training and expectations.

Though Littledale was no longer among infantryman, he claimed that his training seemed dangerous to the average soldier. For infantrymen, the more training they were given, the more often they would be needed, and thus the more often they would see battle. Knowledge, for these men, was only a way to increase the risk of war.¹¹⁶ Jenkin also put the tank crews in contrast with other army recruits based on their knowledge and the importance it held for them, since he had first seen action as an infantryman in France beginning in 1916. In his estimation, “‘to think’ is a quality commendable to all young men, but in military life it is very apt to bring much trouble in its train. ... To be like a mechanical doll begets more approval than to possess the brain wealth of Plato.”¹¹⁷

After joining the tank crews, Jenkin’s perspective changed:

There is scarcely any branch of the Army that demands more brain work from the private than does a complete set of courses in the Tank Corps. He is at once a mechanist, artilleryman, and machine gunner, and must also know the use of rifle and bayonet, revolver and bomb. He also has to become acquainted with semaphore signaling, compass and map reading, and drivers especially must possess a knowledge of how trenches, dug-outs, and machine-gun posts are constructed, indispensable on the battle-field to detect and avoid those parts that would probably get the tank stuck.¹¹⁸

Even in the question of appearance, Jenkin found that the pressure of inspection doubled during the courses at the tank school. His earlier experiences with infantry had shown him the disappointing lack of flair in the British Army’s plain khaki uniforms, but the tank men at least had badges to polish and caps to keep in order. Though Jenkin, as a new

¹¹⁶ Littledale, “With the Tanks”, 840-841.

¹¹⁷ Jenkin, *A Tank Driver’s Experiences*, 40.

¹¹⁸ Jenkin, *A Tank Driver’s Experiences*, 49.

recruit and in no position of authority, had no say in the organization or creation of tank units, his catalogue of the tank school courses emphasized the shared experiences of these newest recruits, changing them from a general collection of recruits into men of the Tank Corps.

Beyond the tank crews themselves, training on the Lewis gun allowed men like Hickey to empathize with men trained in the B.E.F. artillery, since their training was equally specialized and rigorous. Hickey's connection to the Lewis gun, and his training therein, also illustrated a connection to the B.E.F. as a whole while still providing some definition to the tank crews: the need for specialized training on Lewis guns was common to the tank crews and to the artillery. Littledale was explicitly told in his training that "you will remember you are artillerymen," and that those who failed the training courses would return to the infantry.¹¹⁹ Given that the Tank Corps had originated as a branch of the Machine Gun Corps, this natural common ground was the most explicit link between tank crews and non-tank crews. Most tank recruits had some experience of the British army before entering the crews, allowing them to recall their time in other positions, but this specific link with the artillery would become important again on the battlefield as the tanks coordinated with artillerymen to make their pushes.

The process of training did much to establish regularity and cohesion among the tank battalions, even though they might not see much action initially. As a young man fresh from the rigor of public school, Wilfred Bion felt comforted by the structure of the camp, finding that "it was a good camp, well disciplined—not ramshackle, temporary and amateur like so much I had seen in my feverish and irritable progress. This I felt was *it*."¹²⁰ The ritual and procedure of training lent regularity to the lives of the tank recruits, and for Bion in particular, it was more familiar to have one's life dictated and regulated by a higher power in contrast to the chaos crews would experience at the front. William Watson, who had been among military men since the beginning

¹¹⁹ Harold A. Littledale, "With the Tanks, II. Then Wander Forth The Sons of Belial", in *The Atlantic Monthly*, Jan. 1919, 81-89, 81.

¹²⁰ Wilfred R. Bion, *The Long Week-end 1897-1919: Part of a Life*, (Karnac Books, 1982), 116.

of the war, recognized the power of routine in unifying men in his recollection: “There is nothing in the world like smart drill under a competent instructor to make a company out of a mob. Train a man to respond instantly to a brisk command and he will become a clean, alert, self-respecting soldier.”¹²¹

However, though the power of work and regulation were very real for the new tank battalions, equally powerful was the influence of play. It was not long after the creation of the battalions that Watson’s company formed a football team, existing as informal ambassadors to other companies whenever they organized a match. Officers too would join in, shouting encouragement (or florid curses) from the sidelines. Watson carried the idea of “play” even further, claiming that on rare occasions, they were “allowed to play” with real tanks instead of canvas blinds for training.¹²² These training events would include spectators, lending the entire event a more theatrical tone than a serious training exercise might warrant. These exercises were not simply entertainment, for the various participants did learn how to coordinate, move with, and trust their tank crews, and the months of training allowed Watson to declare that the company had found itself as early as March of 1917.¹²³ This was fortunate, as the companies were soon called into action at the Ancre in the Battle of Arras.

Trials at the Front

Watson referred to the tanks more frequently as he prepared to face his first tank action at the Hindenburg Line, and this repeated reference gave him cause to assign the tanks specific pronouns. It apparently seemed natural to Watson, despite any history or reference to the navy or artillery, to call the tanks “she”, and refer to them with female pronouns. He also took the time to describe the tanks in more detail, perhaps feeling that since they had reached their natural

¹²¹ Watson, *A Company of Tanks*, Chapter II.

¹²² Watson, *A Company of Tanks*, Chapter II.

¹²³ Watson, *A Company of Tanks*, Chapter II.

environment at the front lines, he could describe them as they ought to have been described. Like most of his contemporaries, Watson reached for bestial metaphors: the tanks were “patient animals” and “performing elephants”, though Watson also made curious use of a reference to “gray sliding masses.”¹²⁴ The tanks were both familiar and alien, especially when Watson was attempting to coordinating their movements in the hours before dawn. The sound of the tanks, coupled with the tension before a battle and Watson’s knowledge of the mass of the tanks, made an already eerie atmosphere doubly tense. Men could familiarize themselves with the tanks as much as they liked, but one wrong move in a tank could still crush a man before the drivers had any inkling of danger, making tanks a source of concern even among their own crews.

The importance of reconnaissance and communication developed importance most clearly in Watson’s experience at Bullecourt. Required to stay back with generals and staff officers, Watson had sent out his tank company to join the Fifth Army at the front lines, but a blizzard made guiding the tanks and following the track to their starting positions nearly impossible. Tanks were accustomed to following tracks of tape laid out in front of them, since shouting directions would prove useless to men crammed into the tank’s cab, but snowfall made the laying of tape in Watson’s anecdote ultimately useless.

Outside of the tank crews, communication was also necessary to inform infantry commanders of the tanks, and to prepare the infantry divisions for moving with the tanks. In preparing for the battle, Watson noted that “my tanks were detailed to cooperate very closely with the infantry,” as if this command was not the same directive being given to tank commanders across the Western Front.¹²⁵ Coordination between tanks and the infantry would determine the efficiency of any tank attack, and as infantrymen became more accustomed to working with tanks, the presence of tanks on the Western Front would become correspondingly more effective. Men from Stern to Fuller had acknowledged at least some need for tanks to coordinate closely

¹²⁴ Watson, *A Company of Tanks*, Chapter III.

¹²⁵ Watson, *A Company of Tanks*, Chapter III.

with infantry divisions, but Watson's identification of this specific detail indicated that it was either new to his thinking, or that he found it pertinent enough to mention to his audience. The tanks were not merely a branch of artillery, though they still were formally a subsection of the Machine Gun Corps: rather, the tactical demands of a tank commander and a tank company required a thorough understanding of infantry movements, rather than a vague large-scale coordination of artillery and infantry. This tactical perspective was not as important in Watson's account as it is in others, namely the perspective of tactician Major J.F.C. Fuller, but these tactical themes of coordination and the purpose of the tank reflected the novelty of the tanks and the demands made on tacticians by the presence of these new machines.

Watson's appreciation of infantry was evident in his concern over the planned action at Bullecourt. In his words, "I was desperately anxious that the tanks should prove an overwhelming success," was certainly in character for a tank commander worried about position, prestige, or his company, but the next sentence, "It was impossible not to image what might happen to the infantry if the tanks were knocked out early in the battle," illustrated Watson's empathy for infantrymen (a rank he had left only a few months prior) and the lack of division between tank crews and the infantry.¹²⁶ Despite the introduction of the tanks, the additional training required of tank crews, and the changing tactics that accommodated the tanks, some tank commanders saw no difference between their efforts as tank men and their efforts as part of the British army. Close coordination with the infantry necessarily meant that the tanks and infantry relied on each other for any measure of success or even survival. Watson, at least, was conscious of these ties and chose to view himself and his company as soldiers first, tank men second.

Unfortunately, reports during the battle itself indicated a grim outlook for the tanks. While tank mechanics and organization had improved somewhat from their first excursion at Flers-Courcelette, the difficulty of Watson's company in reaching Bullecourt may have affected their performance in the battle itself, and the hurried report that all the tanks had been "knocked out" brought both Watson and his Australian infantry counterparts a measure of dismal horror. The

¹²⁶ Watson, *A Company of Tanks*, Chapter IV.

aftermath of the battle was slightly more reassuring, as a sizable portion of Watson's tanks were in fact recoverable, but even when relating the damages and losses, Watson did not fall into despair. He did devote sizable quantities of text to the various actions of his men, much like other formal histories would do in the interwar years. Watson did his best to preserve a tone of heroism, even when a trio of tank men journeyed back into No Man's Land to retrieve a Primus stove—"It was a valuable stove, and he did not wish to lose it."¹²⁷—and return with a previously evacuated tank. Though humorous, Watson did not use the anecdote to poke fun at his men, but to present their heroism in a new light: even when the tanks were knocked out and the battle over, the tank crews still possessed their innate courage and motivation, turning a minor adventure into a triumphant excursion.

Though Watson was able to record heroism and diligence on the small scale, his presentation of larger events was more pessimistic. The First Battle of Bullecourt was a failure, even a "minor disaster," and Watson chose to characterize the tanks as "nothing but a broken reed."¹²⁸ The deeper tragedy for Watson was that his Australian companions, those who had fought alongside the tanks and to which he afforded so much concern, immediately distrusted the tanks and began to doubt their utility. This doubt shook Watson, so much so that when writing his memoir in 1920 he devoted several pages to justifying the use of tanks and defending his company specifically. He even quoted praise from General Hugh Elles himself, "This is the best thing that tanks have done yet,"¹²⁹ and referenced formal messages of congratulation to bolster his position. Watson felt wounded by the apparent betrayal from the Australians, a betrayal made keener by his earlier empathy toward them, and he had to negotiate his identity and position as a tank commander by identifying both small scale successes and wider acknowledgement.

In the Second Battle of Bullecourt, Watson again found great importance in supporting the infantry. Additionally, as a commander, he began to recognize his own helplessness in the

¹²⁷ Watson, *A Company of Tanks*, Chapter IV.

¹²⁸ Watson, *A Company of Tanks*, Chapter IV.

¹²⁹ Watson, *A Company of Tanks*, Chapter IV.

midst of a battle: "We, who had set the stage, had only to watch the play. We could not interfere."¹³⁰ Identifying himself with the families of his men, Watson accepted reports with the emotional impact they required, refusing to adopt a terse stoicism but expressing the turmoil that family members might have felt were they able to see the reports. In a further surprising moment of empathy, Watson described the actions of certain German soldiers as "brave," and did not use euphemisms or glorious terms to describe how tank crews killed German soldiers in their trenches.¹³¹ In his description, both the tank crews and their German opponents were equally heroic, injecting a new dimension to a war memoir that tried to present both sides with some equanimity.

These months of conflict formed a secondary part of tank training, albeit training with a higher rate of casualties. The pressures of battle allowed men in the tank crews to familiarize themselves with their duties, while their captains and commanders adjusted to the demands made of them by infantry commanders. As more tank battalions were added, there came more opportunities for tank brigades and battalions to cooperate in small-scale actions, but the tanks were mostly directed by the needs of the infantry. Rarely did the tank headquarters have any say or relevance in the movements of individual brigades, and tanks were more often under the direction of an infantry commander. With this division between tank tactics and tank crews, tank crews focused on their experiences at the front to find a community. Even tank men who cared little about the details of tank tactics would understand the stresses of crewing a tank, and might well defend their tank comrades against slander by infantrymen. This resilience of brotherhood and strength of unity would be important for the tank crews in the coming months, as decisions from High Command would plunge the tanks into the mud of Passchendaele.

Though the Battle of Passchendaele, or the Third Battle of Ypres, is a disappointing chapter in the life of the young Tank Corps, its inclusion is vital. Few publications about Passchendaele, whether contemporary or historical, have treated Passchendaele as anything other than a failure. The Tank Corps followed this trend in both official histories and in less formal

¹³⁰ Watson, *A Company of Tanks*, 82.

¹³¹ Watson, *A Company of Tanks*, 85.

publications. Those who condemned Commander Haig referenced this battle as an important aspect of his failings as commander, however, for the Tank Corps their condemnation and irritation at the battle took a sharper edge. Much of the Tank Corps saw the future of the corps itself at stake, and the concern over the future of the tanks overshadowed any concern about winning the battle.

The unsuitability of the tank for the Passchendaele offensives also gave the tank men reason to worry. As the tanks were often mired in mud, they became difficult to move and difficult to direct, and their crews grew increasingly wary of being asked to travel any distance. The infrastructure of the B.E.F. at Passchendaele was in no way prepared for the presence of the tanks, and the material needs of the tanks often formed the first barrier to effective use.

With some tanks weighing in at 28 tons, the B.E.F. lacked an equivalent machine to effectively unditch tanks which fell into the mud. Ditching had been a concern since the first appearance of the tanks, but the struggle to unditch tanks formed only part of the challenge facing the tank crews. Tank crews referenced the trucks and lorries which had been used on the improvised Passchendaele B.E.F. “roads” to that point, but emphasized how the 2 or 3 ton trucks were a fraction of the weight of the tanks. The packed mud and clay which formed the roads behind the Passchendaele lines often proved insufficient to carry tanks reliably.¹³² When tanks became ditched, they proved an inconvenience to the tank crews, the work crews called upon to try to unditch them, and the commanders who had ordered the tanks to change locations originally. As the Tank Corps lacked the organization, numbers, or commanders enough to dictate their own movements, they were still subject to the tactical decisions of infantry commanders. Concerned as these commanders were with men and horses, they often failed to recognize the limitations of the tanks in the Passchendaele mud.

Though tanks and infantry performed to the best of their ability, exhaustion quickly set in, and the inability to effectively capture their objectives left divisions demoralized and irritated with the entire offensive. With tensions increasing due to the horrendous losses and the dismal

¹³² Fuller, *Tanks in the Great War*, 121-122.

environment of Passchendaele, infantry commanders and troops grew more and more frustrated with the tanks, finding them only an extra annoyance instead of a suitable weapon, and the tank crews had good reason to fear that this frustration might translate into dissolution of the Tank Corps altogether.¹³³ The issues of supply and the concerns of higher commanders worried them in an abstract, worst-case scenario way, and managing the immediate stress of battle and survival alongside the long-term stress of the potential dissolution of the Corp made this one of the most trying times in the Tank Corps' history. However, as little as the tank crews might have thought of their infantrymen counterparts, General Douglas Haig, or the ministers of the Home Office, the Tank Corps was not disbanded, and they continued to be supplied as the B.E.F. withdrew the offensive from Passchendaele and turned its attentions to Cambrai.

Passchendaele stood out as the time and place when the tank crews experienced the height of their nervous tension. The location timing of Passchendaele seemed to come from the pen of a particularly Dickensian author: the dreary rain, the soul-sucking mud, and omnipresent worry of dissolution united to plunge the tank crews into inescapable despair. The cruel coincidence of Passchendaele's environment and its timing in the overall pattern of hostilities is not entirely by mere chance. The difficulties faced by the tanks in Passchendaele's mud and rain illustrated their greatest shortcomings, and provided ample reason for commanders to dismiss, ignore, or berate the tanks. Had the tanks not been sent to Passchendaele, perhaps the morale and outlook of their crews would have been more improved. However, in a narrative sense, Passchendaele provided a time of increased tension that crew men would remember with horror, before finally emerging victorious at the Battle of Cambrai. Cambrai is the peak of the tanks' performance in the First World War.

Several benefits did come from the summer of 1917: the arrival of Mark IV tanks, with their improved design, made it slightly easier for tanks to maneuver and navigate; the official Royal Warrant which created the "Tank Corps" as their own arm lent further stability to the lives of the tank crews and assuaged their fears of dissolution; and finally, the minting of an official Tank

¹³³ Hickey, *Rolling into Action*, 51.

Corps badge allowed tank crews to finally develop an official uniform, reflecting their common purpose rather than their patchwork backgrounds. Few accounts of the battlefield took note of the developments, however, likely because the pressure of the offensive was their immediate concern.

In his memoir, Commander Wilfred Bion's experience combined with his internal conflicts about his familial relationships, the experience of joining the army, and the mechanical realities of the tank he commanded. Unfortunately, Bion led his first command as part of the Battle of Passchendaele, meaning that the first action Bion saw was covered in mud and limited by the narrow walkways constructed over the rivers and puddles. While shelling was a constant concern, the tank's first real movement prompted a slurry of mud as the gun "ploughed through, not over, the ground."¹³⁴ Bion began to explore his exasperation with a "public school elite," though he avoided pointing too directly to anyone within the administration of the army. In fact, Bion included himself in the "elite" that apparently forgot the natural result of water mixing with earth: in Bion's account, the existence of mud proved a surprise to many men, and so he pokes fun at their collective ignorance on such basic matters. This identification with a "public school elite" persisted as Bion's tank foundered, and was finally stuck in the mud, leaving Bion and his crew to huddle beside it and trade stories. An older man on the crew, nearly twice Bion's age, described his family, and Bion realized that it was only a "public school culture" that had allowed him to rise to a position of authority based on his education and status instead of his experience.¹³⁵

Bion's continual experience was one of disillusion, first with the public schools and elitism that administrated his life and then with the religion that had accompanied that schooling. The tanks are a minor, almost inconsequential factor in his de-conversion: the tank is literally a vehicle to carry him to these revelations, rather than an agent of revelation. Bion also included a mention of Haig, and even discussed the controversy over Haig's decision to deploy tanks on ground clearly unsuitable for them at Passchendaele.

¹³⁴ Bion, *The Long Week-End*, 132.

¹³⁵ Bion, *The Long Week-End*, 133.

Haig and his Staff have been blamed for thinking that such terrain was suitable for tanks, for not reconnoitering the ground personally, for not understanding the capacities and limitations of tanks. Well, we three *did* know the tanks and we were reconnoitering the ground on the spot. But I do not remember that any of us for a moment thought that a forty-ton tank could float; the mud must have seeped into the place where our minds were supposed to be. The army, of which we were part, was mindless.¹³⁶

Bion recognized, with an important perspective for a tank crew member, that the tanks were part of the army at large, and that tank crews were not exempt from the stresses of army life. Bion also avoided placing blame with Douglas Haig for the decisions made about tank deployment, though whether this move reflected Bion's prejudices or his lack of expectations is unclear. In the end, however, Bion gave an account which strove to emphasize the similarity, not the difference, between tanks and other non-tank soldiers, down to the confusion and lack of clear thinking that swamped men on "the front" at Passchendaele. Passchendaele challenged the tank crews in difficult ways, joining them with non-tank men in the struggle for survival.

When the tanks went into action, however, Bion began to find the differences: since the tanks organized their line and began moving in the dark, it could be treacherous to try and coordinate with infantry and supply horses moving alongside. Furthermore, Bion's position as commander meant that he had to walk in front and guide the tank along its path, meaning that if he fell unseen, it was likely he would be crushed beneath the tank's treads. Caught in a rush of movement, Bion commanded his tank to stop, only for a fellow officer to question why the tanks had not yet reached their positions. In "some peace-time form of manners," Bion apologized for the delay, and suffered the "curses and hate" of the infantry men around him as the tank moved along the narrow British lines again.¹³⁷ This drama behind the lines affected tank crews in a

¹³⁶ Bion, *The Long Week-End*, 126.

¹³⁷ Bion, *The Long Week-End*, 132.

specific way, since the risk of working with the tanks was not as common to the infantry or cavalry units. Though Bion had only recently been assigned to the tanks, and considered himself an “amateur,” his identity was tied to the tank from the time of his training, and his concerns over the dissolution of the tank crews revealed his connection to the unit and his fellow tank men.

Even in the holiday season of 1917, Bion and his men felt their worries compounded, the usual stresses of war worsening with the news of Russia’s withdrawal and the anxiety over the future of the tanks. However, despite the pressures of Passchendaele, the tank crews persisted through 1917, gathering strength and gaining the experience that would see them victorious at the Battle of Cambrai.

Cambrai and Victory

For men reliving their experiences after the Armistice, the memory of Cambrai stood in contrast with the memory of Passchendaele. The six months between the battles had not lessened the memory of Passchendaele for the men who had lived through it, and Bion’s experience illustrated how concerns about disbandment and the overall performance of the tanks remained a fixture in the minds of tank crews. However, in a dramatic counterpoint to the worries of the Battle of Passchendaele, the tank crews had been officially made members of the Tank Corps in July of 1917, meaning that the corps had finally grown large enough to escape the administrative umbrella of the Machine Gun Corps and were no longer a branch. With this new administrative freedom, the Battle of Cambrai came as a confirmation of the efforts of the tank crews and their commanders, granting them a dramatic victory with clear tank involvement.

The Battle of Cambrai was notable for the Tank Corps not only because of their newfound appointment, but because they finally had a significant amount of tanks that would effectively see action. A total of 378 tanks were available for the November offensive, and mechanical issues were more easily addressed given the experience of the crews. The new Mark

IVs had effectively replaced the Mark I tanks, refining the design to improve handling.¹³⁸ Instead of multiple drivers, tanks could be driven by a single driver, freeing other crew members for rest or for manning the guns. Finally, on the night before the battle, General Elles issued an order to the Tank Corps informing them that he would be personally leading the tanks in the centre division, prompting an outpouring of emotion from the crews and officers.¹³⁹ Most tank crews, if they had the opportunity to meet Elles, remembered him fondly, and his declaration of joining them at the Battle of Cambrai only solidified his character in their eyes.¹⁴⁰

The main objective of the Battle of Cambrai was to overcome two ridges where German lines were established. Given a time limit of forty-eight hours, the tanks and infantry made their largest push on November 20, 1917, with November 21 spent mostly in establishing positions atop the old German lines. The official history of the Tank Corps records that it was “a deeper penetration made in a shorter time than in any previous offensive since the Western Front was cemented.”¹⁴¹ The rapid movement and clear successes provided a dramatic counterpoint to the extended, ineffective pushes at Passchendaele, and both the tank crews and their commanders found a new pride in claiming the Battle of Cambrai as their “coronation.”¹⁴²

After the disappointment of Passchendaele, Bion was able to find aspects to praise about the action of the tanks, and found the speed and movement at Cambrai a refreshing change. In drawing up to the line, “we broke through and over wire which at Ypres would have held fast for weeks any attack no matter how powerful the artillery support, and probably for as long as we cared to go on hanging our corpses on it.”¹⁴³ The main advantages of the tanks were on full display, no longer merely tactical theory in Fuller’s papers, but military reality on the field.

¹³⁸ Royal Armoured Corps Tank Museum, *Tanks: the First World War, 1915-1918*, 13.

¹³⁹ Fuller, *Memoirs of an Unconventional Soldier*, 202.

¹⁴⁰ Horace Birks, sound recording, 1976, catalogue no. 870, Reel 8; Imperial War Museum, London, England.

¹⁴¹ Hart, *The Tanks*, 147.

¹⁴² Hart, *The Tanks*, 128.

¹⁴³ Bion, *A Long Week-end*, 161.

Horace Birks, another tank crewman, felt that the cooperation between infantry and tank crews was lacking at the Battle of Cambrai, but he neglected to contrast this feeling with the experience of other battles.¹⁴⁴ In fact, part of the reason for the lack of coordination was the fact that the tanks advanced faster than expected, and that fascines allowed the tanks to cross trenches more quickly, meaning that the tanks were advancing on enemy positions before the infantry had the chance to accompany them. Special tank fascines were developed at the Tank Corps Workshops in preparation for the attack on Cambrai, bundling brushwood into cylinders 4 ½ feet across, and these fascines facilitated a much faster penetration of enemy trenches and reduced the risk of tanks ditching themselves.¹⁴⁵ Not only did the tank crews themselves display their improved ability on the field of Cambrai, but their victory was also a testament to the improved workshop capabilities and the army's increasing ability to work with the strengths, not the weaknesses, of the tanks.

Though the infantry may have been lacking, the battle of Cambrai became a vital memory for men of the tank crews, as Birks described: "Throughout the Corps, we thought we had established ourselves, which was something. [Later, when speaking with a nurse:] She told us that the bells of London had been rung for our victory...it was terrific."¹⁴⁶ There was immediate confirmation of the tanks' viability, allowing the tank crews to find a new confidence in their abilities and their position within the army. Both the Tank Corps Workshops, as an internal feature of the Corps, and the improving coordination of non-tank divisions with tank movements reflected the strength of the Tank Corps, earning them the support they had lacked in 1916.

As the war entered 1918, various developments attached to the tank had made their way into official training courses. Newly commissioned officers, collected at Bovington for training in tank and gunnery courses, went through training in using the fascines and unditching beam,

¹⁴⁴ Birks, sound recording, catalogue no. 870, Reel 4.

¹⁴⁵ Ellis, *Tanks in the Great War*, 161.

¹⁴⁶ Birks, sound recording, catalogue no. 870, Reel 4.

reflecting the speed with which developments in tank warfare were picked up by the entire corps. Like with trainees in earlier years, trainees in 1918 also were trained in both driving and gunnery. However, with more opportunities to go into action and enough tanks to justify the presence of tank battalions at multiple areas on the front, trainees also had the chance to learn from tank veterans more consistently than in earlier years. There was more to learn, with the changes made in tank designs and the additions of fascines, but the Tank Corps retained the support it needed from men at the front, providing feedback to the Tank Corps Workshops and the training camps alike to refine the crews and their tools.

The use of smaller raids also helped the tanks prove themselves to infantry divisions, as well as providing opportunities to refine coordination between the two groups and for tank crews to familiarize themselves with the tanks and their other tools. Even for men who saw little action, like John Wainwright of the 8th Tank Battalion, the emphasis of the link between the tanks and the infantry still shone through in minor movements. Though Wainwright never participated in a major tank battle, like that of Cambrai, his position as a tank section lieutenant allowed him to see how commanders directed the tanks to move on a position and clear out lanes for the infantry to follow, thus accomplishing minor but successful pushes along the line.¹⁴⁷ Though Wainwright lacked dramatic milestones like Bullecourt or Cambrai to mark his progress, the contributions of the tanks were visible to their crews, who found the steady, incremental movement of smaller raids just as encouraging as major pushes. Again, Fuller's confidence in his tank tactics found fruit on the Western Front, and lent further credibility to the tank crews and commanders alike. When infantry commanders coordinated with the tanks, progress was visible, encouraging the infantry to work more closely with the tanks in further operations.

Idle moments of 1918 also saw incidents where tank men would occupy themselves with a specifically tank-derived sport: by shooting houses, they could knock slates off the roofs and

¹⁴⁷ John Wainwright, sound recording, 1988, catalogue no. 10600, Reel 12; Imperial War Museum, London, England.

thus devise a rough point system.¹⁴⁸ Though this game was unlikely to be popular for long, its invention indicated how the tank men had become familiar enough with their tanks to take some liberties. The tanks were as crucial to the tank crews as the crew members themselves, and their various features could inspire joy as well as admiration. The crews had survived Passchendaele to earn the glories of Cambrai, and were confident in their training, their organization, and their tanks.

Amiens and New Models

David Fletcher, in describing the Battle of Amiens, called the battle the “final blow” from which the German Army never recovered.¹⁴⁹ While the battle itself was an impressive example of the use of tanks, the battle is more interesting from a personal perspective since it added new vehicles to the class of “tank,” and required some reorganization of men and machines. The Tank factories began manufacturing Mark V and Mark V Star models, in which improvements to the steering mechanisms allowed the new models to be driven by one driver instead of three. Mark V Star tanks were also longer by two to three feet, which enabled them to climb out of trenches more effectively.¹⁵⁰ Whippet tanks appeared in action and supply/gun-carrier tanks carried sledges of materials and heavy artillery guns, forming a slower yet still mobile platform from which artillery and other tank divisions could source their supplies.¹⁵¹

Interestingly, the men of the tank crews made little distinction between the Whippets and the earlier Mark IVs and Vs, despite the differences in ability and firepower. Since the Whippets came at such an apparently late stage, it may have been easier to simply refer to all tank models as “tanks,” but for the tank crews, this lack of distinction also reveals their form of attachment.

¹⁴⁸ Fullerton, sound recording, catalogue no. 710, Reel 1.

¹⁴⁹ David Fletcher, *Tanks and Trenches: First Hand accounts of tank warfare in the First World War* (Frome, Somerset: Alan Sutton Publishing Limited, 1994), 137.

¹⁵⁰ Royal Armoured Corps Tank Museum, *Tanks: The First World War, 1915-1918*, 15.

¹⁵¹ Royal Armoured Corps Tank Museum, *Tanks: the First World War, 1915-1918*, 17.

The tank crews were not defined by the *model* of tank that they used: they were set apart merely because of the fact that they were driving a tank. This was also clear in other tank crews that lost their tanks to shelling or fire, and were deeply hurt by the loss. This was not the attachment of a cavalryman to his horse, since the ratio was different (a tank crew would be at least two men in a Whippet, and usually six in a Model IV or V), but the tank crews took responsibility for their tanks in a deeply personal fashion.

The tank crews continued to find ways to emphasize their attention to their tanks, as well as their own feelings towards the tanks. When tanks were destroyed in early actions, some members described a bitter envy towards crews whose tanks remained functional. For the 6th Battalion, their new assignments to the Whippet tanks provoked interest in the new models, as well as a kind of excited joy at being able to crew the new models.¹⁵² The speed of the Whippets reduced the stresses of getting into position or maneuvering the tanks once in place, and since the Whippets were also comparatively smaller than earlier models, the clumsiness of the Mark IVs and Vs was barely present in the movements of the Whippets. Another important change was that the Whippet tanks coordinated with the cavalry, not with the infantry. The primary reason for this decision was the difference in speed, since the Whippets could maintain faster speeds and keep pace with the cavalry.¹⁵³

The effect of the Whippets was limited in the Battle of Amiens, mainly since their coordination with cavalry was judged (by the tank men) to be a failure. Though the Whippet tanks were faster than their earlier counterparts, they still could not keep up with cavalry moving at a full gallop, and when the tanks did catch up with the cavalry, they would often push forward while the cavalry was cut down by machine gun fire.¹⁵⁴ As with the early battles fought in Mark I tanks, the tank crews were forced to rethink their own place on the battlefield and how the tanks might be used most effectively, especially if they were to fight alongside Mark V tanks in the same action.

¹⁵² *The War History of the Sixth Tank Battalion*, (Antony Rowe Ltd., 1919), 111.

¹⁵³ Fletcher, pg. 141.

¹⁵⁴ David Fletcher, "The Origins of Armour", in *Armoured Warfare*, ed. J.P. Harris and F. N. Toase (London: B. T. Batsford, 1990), 23; *The War History of the Sixth Tank Battalion*, 132-133.

Using heavy tanks to accompany infantry had been a strategy that saw success at Cambrai and, when applied correctly, in other battles, but the light Whippet tanks left the Battle of Amiens without clear confirmation of their role. That they were useful was not in question, thanks to their speed and movement capabilities, but in this case, innovation was not enough to produce success. The men of the new Whippet battalions could do little but wait until tactics, whether from infantry, tanks, or cavalry, managed to provide a clear role for Whippets to fulfill.

The employment of gun-carrier tanks gave some tank crews the chance to explore alternative uses of the tanks, since the gun-carrier or supply tanks had been altered and were fit for fighting. Instead of facing action on the front lines, these tanks took a less dangerous position, shuttling supplies to the artillery and staying well within British lines. Officer Bertram Steward felt that the role of a supply tank was a “piece of cake,” especially in comparison with the duties of the infantry, and even such catastrophes as a tank fire were easily overcome with quick reactions and adequate fire extinguishers.¹⁵⁵ “We didn’t do anything brave or exciting, not really.”¹⁵⁶ The supply tanks did prove effective at unditching Whippet tanks, namely because the supply tanks were so much heavier than the small Whippets, and so the men of the supply tanks found themselves in a different position than the men of the Whippets or the Mark V tanks. Commander Watson, having been transferred from his company and assigned to the 4th Infantry Carrier Company, slowly realized the change in duties that came with his movement from a company of heavy tanks to a company of supply tanks. Though the role of the supply tanks was a significant change from the role of “fighting tanks,” Watson managed to find some valor in potentially becoming part of “that splendid Corps, the Royal Army Service Corps.”¹⁵⁷ Navigating the conflict between a tank crew’s identity as “fighting troops” and their real utility in the tanks was a bittersweet moment for tank crews assigned to the supply tanks. Apparently General Elles recognized this conflict too late, for he made a somewhat contradictory compliment to Watson’s

¹⁵⁵ Steward, sound recording, catalogue no. 9279, Reel 4.

¹⁵⁶ Steward, Reel 4.

¹⁵⁷ Watson, *A Company of Tanks*, Chapter XIV.

company upon their arrival in France: "General Elles can never have realized how he broke our hearts, when he inspected us on our arrival, by telling the three proud company commanders that the men were too good for the Carrier Companies."¹⁵⁸ Instead of defining themselves by brave heroics, the supply tanks and their crews became instead part of the mechanism of the B.E.F. lines, following behind other divisions and finding utility in supporting artillery guns and providing supply dumps for other tanks to refuel and resupply. In the months of 1918, the progressive offensive of the B.E.F. allowed for continual advancement, and the supply tanks were thus at their best as artillery guns and other tank battalions were being continually moved forward.

In the heat of the battle, particularly in the larger operation at Amiens, the supply tanks did experience some action, but as a periphery to the main battle. Fires were more common, as particularly accurate shells would puncture petrol tanks and ignite the petrol within. Though Steward considered the actions of the supply tanks as rarely heroic, the drama of the battle of Amiens was enough for a second lieutenant of the 1st Gun-Carrier Company to be awarded the Military Cross.¹⁵⁹ This company specifically lost fourteen supply tanks to shelling, and the highlight of the battle was the rush to remove tanks from the scene of the fire. In this instance, the supply tanks seemed more like their artillery counterparts than their other tank comrades: their greater fear was shelling from enemy artillery, located at quite a distance and impossible for them to engage, and the worries of coordinating with infantry were nearly nonexistent. These tank men still considered themselves part of the world of the tanks—they were part of the Tank Corps, reported to other tank men, and corresponded with Tank Corps productions—but the development of supply tanks allowed their crews to define themselves not only by action but also by the more mundane duties of supply and the rear-line positions of stationary artillery.

The Battle of Amiens also allowed the tank crews to form new (or to renew old) connections with specific groups. Across a number of accounts, the Australians earned the most accolades from tank men, even with the disappointments of Bullecourt and Watson's irritation at

¹⁵⁸ Watson, *A Company of Tanks*, Chapter XIV.

¹⁵⁹ Fletcher, *Tanks and Trenches*, 140.

the lack of faith from Australian infantry.¹⁶⁰ Canadian divisions and a division of Highlanders took part with the tanks in various battles, but in comparison with the Australians, the Canadians proved to have little experience with tank coordination, and the Highlanders only had a few opportunities to fight alongside tanks before moving to other parts of the front.

The news of the arrival of American soldiers also provoked some interest, although the greater interest would come when the 301st Battalion was formed, providing the United States Army with a collection of Mark V tanks to work in concert with the British Tank Corps. The British tank crews viewed their American counterparts with a mixture of amusement and affection, working to train the Americans in the use of the Mark V tanks to prepare them for action.¹⁶¹ While tank crews were not immune to feelings of resentment that the Americans had delayed entering the war for so long, they were nonetheless excited to introduce their tanks to new users, and congratulated those American crews who took the training to heart.

Though Commander William Watson also worked closely with supply tanks as part of his command, the events of Amiens were a dramatic spectacle in Watson's understanding of the Tank Corps. Not only did the tanks perform effectively, they were as much the stars of the battle as they were at Cambrai, and perhaps more so: their newfound variety allowed different tanks to earn merit in different ways, and the development of light tanks seemed to Watson "to put the cavalry in the grave."¹⁶² Even with Bertram Steward's claim that there were no "heroics" among supply tanks, Watson recounted a number of his own tanks who managed to use their single gun to provide cover for infantry, or who accompanied divisions into the thick of battle to supply needed ammunition. Some disappointment was a consequence of the deployment of anti-tank guns by the German artillery, and each action resulted in the loss of tanks either to direct shell hits or to fires. Despite their problems, Watson took great pride in his company of supply tanks

¹⁶⁰ Hart, *Tanks*, 180-181.

¹⁶¹ Hart, *Tanks*, 171.

¹⁶² Watson, *A Company of Tanks*, Chapter XV.

and labeled his men “indefatigable,”¹⁶³ especially since supply companies were using older models of tanks (usually Mark IVs with some guns removed to make room for supplies) and often had fewer men than a fighting company. Though not as spectacular as the battle of Cambrai, the battle of Amiens was a significant triumph for the tanks, and since the battle was the beginning of the Hundred Days leading to the Armistice, most memoirs and histories recorded the battle as part of the final push towards victory. Watson’s memoir was particularly poignant, since he had moved from the 5th Company and its retinue of experienced men to the less-prestigious 4th Supply Company, and witnessed for the second time how the pressures of battle shaped a company’s identity and gave mere trainees the experience to work as a unit.

Aftermath

The reaction of the tank crews to the news of the armistice was not significantly different from the reaction of non-tank soldiers: in tank accounts, the primary emotions were those of relief and joy, the hope of returning home and the triumphant celebrations that broke out spontaneously across the front. Watson’s account of leaving his company was as bittersweet as his earlier departure from his infantry division in 1917, but his position of command gave him a particularly compelling perspective on demobilization:

I was desperately sorry to leave my men and my tanks. It must break the heart of a man to retire from a famous regiment in which he has spent his life, but the regiment continues to live. A Carrier Company was a humble, temporary unit in a vast organisation, a momentary improvisation. Like every other Company, it had found itself and created its own personality. It had fought for its existence against the ignorance and laughter of the more conservative elements in the Tank Corps. I knew that soon the remnants of the Company would return home and the Company finally be dissolved. Yet there it was — something which I had “formed” though not created. From an odd crowd of men with a few obsolete

¹⁶³ Watson, *A Company of Tanks*, Chapter XV.

tanks and some cases of equipment it had become a "Company" of whose honour we were jealous, whose achievements we extolled, whom all of us could leave only with lasting regret....¹⁶⁴

The greater drama for the Tank Corps after the Armistice took place not at the company or battalion level, but at the administrative level. It was commanders like Major Fuller, General Elles, and Commander Hotblack who concerned themselves with the organization of the tank battalions after the Armistice. A significant reduction in numbers compelled most of the tank crewmen to return to civilian lives, sometimes maintaining their friendships or correspondence with other tank men regardless of occupation. A small portion of men who remained with the Corps would go on to see action in the Second World War, having become the veterans they so admired in the early days of the tank regiment. A return to civilian lives, and the establishment of families, allowed tank men to begin sharing their experiences with new audiences and in new ways, and the efforts of family historians and public histories today reflect the willingness of tank men to discuss their experiences. For those willing to give interviews, their time in the Tank Corps was defined only partially by the tanks: they never forgot their connections to the infantry and their relationships within the crews. Their training and their tanks set them apart, due the unique pressures of fighting inside the tanks, but the experiences of the tank crews were not dramatically different from the variety of impressions from other front-line combatants. In Bion, the onset of severe melancholy, even depression, testified to the fact that being in the Tank Corps was no escape from the horror of the battlefield; for a man like Arthur Jenkin, his patriotism and presence in the war allowed him to make claim to a particular kind of military honor, meaning that his time with the tanks had not diminished his attachment to his country or to his own pride. Forging a unit identity among tank crews was not a straightforward exercise, nor was it the product of a specific course, battle, or movement. The mechanical nature of the tanks first attracted men to their ranks, the education and training given at tank schools reinforced connections in the crews, and the

¹⁶⁴ Watson, *A Company of Tanks*, Chapter XVIII.

pressures of coordinating in battle produced tank crews whose lives revolved around their tanks, yet could still (and did still) share the trauma and glory of non-tank men.

CHAPTER 3

As British administrators and designers made the tanks into a viable military reality, and as the tank crews developed unit cohesion and battlefield victories, they were not the only groups interacting with the tanks. The tanks made headlines in British newspapers the week they saw action on the Somme, and the British public was exposed to tank news over and over as newspapers reported on these novel inventions. The tanks were not merely a momentary item of note, either: the months between their first action at the Somme and the completion of the armistice saw a number of tank stories, tank souvenirs, and tank fundraising campaigns working to engage British civilians with the tanks. Even without detailed technical, tactical, or personal knowledge of the tanks, civilians were provided with numerous opportunities to examine the tanks and form their own opinions. Newspapers worked to contextualize the tanks with both war stories and photographs, and the Tank Bank fundraising campaign helped to emphasize the connections made between tanks and the war effort, bringing tanks to the home front in a tangible way.

Newspapers provided a multitude of articles and documents which were available to British civilians, and the stories they chose and images they featured helped to condense the war into readable portions for their readers. Letters from private soldiers were a rare and personal resource, meaning that most civilians relied on newspapers to provide information about the events of the war.¹⁶⁵ Consequently, if the press chose not to report on major events or avoided certain topics, the general public would have no information about those ignored milestones.¹⁶⁶ Though newspapers were also subject to influence from their editors and, ultimately, the government, most newspapers kept in line with government expectations for reporting and rarely encountered significant censorship. However, this did not mean they were always truthful or direct: to appeal to both their government and their readers, many newspapers chose their topics

¹⁶⁵ "Introduction", in *A Call to Arms: Propaganda, Public Opinion, and Newspapers in the Great War*, ed. Troy Paddock, (Westport, Connecticut: Praeger), 5.

¹⁶⁶ Steven Badsey, "The Missing Western Front", in *War and the Media: Reportage and Propaganda, 1900-2003*, ed. Mark Connelly & David Welch, (London: I.B. Tauris and Co. Ltd., 2005).

selectively to avoid the censor's investigation.¹⁶⁷ Additionally, tank souvenirs provided material reminders of the tanks, and the various forms of these souvenirs allowed civilians to view tanks repeatedly in their daily lives. The production of a war film featuring the tanks allowed civilians to view the movement of the tanks, but the arrival of the tanks in the Tank Bank war bond campaign provided opportunities for civilians to see and touch the tanks directly. Through newspapers, souvenirs, and the Tank Bank campaigns, tanks were presented to civilian audiences as positive aspects of the war effort: humorous, entertaining, and interesting.

Tanks in Print

For the people of England, the tank was at first a well-kept secret. The men who worked on the tank prototypes were sworn to secrecy by the Munitions Department, and the name itself was an attempt to convince anyone who saw the huge metal containers that they were merely water tanks being shipped to Russia.¹⁶⁸ On the front, rumors of a "hush-hush" group lent another name to the early tanks.¹⁶⁹ Recruitment was done covertly, through currently existing squadrons and organizations, and training grounds were closely monitored to avoid unnecessary observation.¹⁷⁰ However, once the tanks rolled into action at Flers-Courcelette, it was difficult to suppress knowledge of their existence any further.

The opinion of High Command, at least regarding the public image of the tanks, took a drastic turn after 1916. Their secrecy through 1916 had made it difficult for the early tank men, working on the Landships Committee or through the Munitions Department, to request or receive supplies as needed. However, with the deployment of tanks on the Somme, war correspondents

¹⁶⁷ Adrian Gregory, "A Clash of Cultures: The British Press and the Opening of the Great War", in *A Call to Arms: Propaganda, Public Opinion, and Newspapers in the Great War*, (Westport, Connecticut: Praeger, 2004), 23-24.

¹⁶⁸ Ernest Dunlop Swinton, *Eyewitness, Being Personal Reminiscences of Certain Phases of the Great War, Including the Genesis of the Tank*, 161; Albert Gerald Stern, *Tanks, 1914-1918: The Log-book of a Pioneer*, 43.

¹⁶⁹ Stern, *Tanks, 1914-1918*, 73.

¹⁷⁰ Stern, *Tanks, 1914-1918*, 36-38.

and newspapers journalists began reporting on the tanks with a mixture of awe and amusement. Like the soldiers who first saw them, the authors who saw the tanks in action found humor in the shuffling, “ambling” movements of the tanks, attempting to communicate this humor to their readers by comparing the tanks to monsters or “tame pachyderms.”¹⁷¹ Though the various newspaper accounts included information about the actual attacks, authors also included the humorous aspects of the tanks and relayed first-hand impressions alongside the testimonies of other soldiers and tank men. There was no need to artificially inflate the success of the tanks, for the journalistic appeal of the tanks was not necessarily their ability to win battles. Instead, it was the story of a few interesting events, like the entry to Flers-Courcelette, coupled with humorous anecdotes about the tanks’ movement and climbing abilities, which produced engaging stories.¹⁷²

Though some authors hinted at the need to keep some details of the tanks a British secret, other correspondents eagerly explained the construction and advantages of the tanks, relaying their wholly British manufacture and explaining the caterpillar tracks that encircled the tanks. Few of the early development issues were visible in the newspaper accounts which reached readers at home in Britain. Instead, the ability of tanks to move and drive over the shelled ground of the battlefield inspired praise from correspondents with a “motorist’s appreciation,” and prompted the observation that “they are a further proof that England’s craftsmen are still the ‘handy Jacks’ of yore in this engineers’ war of ruthless destruction.”¹⁷³ The tanks were identified as one of the “great war weapons,” with an author noting with pride their British, rather than German, origin. “The last-named [the tank] may be imitated by the Germans, but we shall meantime undoubtedly go one better, for we are altogether a quicker people when

¹⁷¹ “Gossip of the Day”, *Yorkshire Evening Post*, September 21, 1916, page 4.

¹⁷² “His Majesty’s Land Navy”, *Evening Despatch*, September 21, 1916, page 1; William Beach Thomas, “The Hush-Hush”, reprinted in *Liverpool Echo*, September 18, 1916, page 4.

¹⁷³ “The Willies: Our Latest Military Weapon.”, *Diss Express*, September 22, 1916, page 6.

once we put our back into it.”¹⁷⁴ In 1916, it was still vital to reinforce British superiority, and the tanks allowed for an easy connection between mechanical ability and military dominance.

Tanks were also incorporated into the ongoing discussion to define “civilized” and “uncivilized” forms of warfare, a debate that had begun in British newspapers early in the war. British authors found that the tanks were “perfectly proper weapons of war,” while the Germans had crossed some barbaric line by utilizing poisonous gas and submarine attacks.¹⁷⁵ While the tanks were a testament to British ingenuity, they were also a reinforcement of British civility, at least after the newspaper authors had been able to add their interpretation to the events. British newspapers tended to focus on perceived German brutality with mawkish attention, a pattern now termed “atrocities reporting” that had developed over the first two years of the war to identify German nature as the root cause of the war atrocities. By 1916, correspondents and editors were not hesitant to identify German culture itself, or their misunderstanding of “*Kultur*”, as their real enemy, meaning that the tanks fell neatly into a pre-existing narrative to reinforce British superiority.¹⁷⁶ Praising British soldiers provided an easy transition for authors to compliment British tanks. “The deciding factor is the quality of the men. We have at last shown our superiority in inventing war machinery, as is proved by the ‘tanks.’”¹⁷⁷ When correspondent Sir William Beach Thomas published his book, *With the British on the Somme*, with an entire chapter devoted to the first actions of the tanks, he also utilized the concept of British mechanical ability to encourage his readers, positioning British mechanics as the forward-thinking counterparts of German chemists. “The Tank—lowly, heavy, obscure, noisy, variable—plods on, and will remain a high tribute to British mechanical skill. We answered in mechanics to the enemy’s chemical

¹⁷⁴ “Hoist with His Own Petard”, *The Graphic*, October 7, 1916, page 5.

¹⁷⁵ “Story of the War”, *Leeds Mercury*, September 22, 1916, page 2.

¹⁷⁶ Gregory, “A Clash of Cultures”, *A Call to Arms*, 37-38.

¹⁷⁷ F. A. McKenzie, “Allies Give Trench Warfare Its Death Blow”, *Sunday Mirror*, October 1, 1916, page 5.

innovations. Doubtless the Germans are good chemists, but there is no novelty in any of the chemical devices used in this war.”¹⁷⁸

Though mechanically complex, the first tanks took the simple shape of a tilted rhombus, meaning that their image could be easily copied down with a few straight lines. Unlike organic subjects, tanks were smooth, flat, and angular, making them easy to draw and easy to recognize. One did not need complicated technical knowledge to identify a tank: tanks had an easily-recognizable silhouette simply because of their size and shape. Even as the war persisted, tank imagery continued to be popular. The visual impact of the tanks dominated discussions about them, and allowed newspapers, commercial vendors, and artists alike to capitalize on the civilian’s desire to see the tanks in reality. As early as September 1916, writers hinted at the possibility of seeing model tanks on display in storefront windows, and wondering whether tanks might be included in the annual Lord Mayor’s show in London.¹⁷⁹ The tanks would indeed be present in the Lord Mayor’s show, though not until November of 1917, and were the centerpiece of newspaper photographs of the event.¹⁸⁰

By 1917, the tanks were recognizable enough for the Mackintosh’s Toffee Company to run advertisements claiming that “Tommy wants a TANK-FULL.”¹⁸¹ Wright’s Coal Tar Soap published an advertisement featuring a tank that had soap bars in place of its tread tracks,¹⁸² and the Daimler Company began to boast of its engines as being “the original POWER UNIT of the tank.”¹⁸³ In a more personal advertisement, the Humber Car company proclaimed that the men of the tanks would “find peace, comfort, and solace once more in touring the country roads of

¹⁷⁸ Sir William Beach Thomas, *With the British on the Somme*, (Methuen & Co.: London, 1917), 229.

¹⁷⁹ “Story of the War”, *Leeds Mercury*, September 22, 1916, page 2.

¹⁸⁰ “The War and the Lord Mayor of London”, *The Graphic*, November 17, 1917, page 13.

¹⁸¹ Mackintosh’s Advertisement, *The West London Observer*, March 2, 1917, page 2; Mackintosh’s Advertisement, *The Bedfordshire Times and Independent*, March 2 1917, page 7.

¹⁸² Wright’s Soap Advertisement, *The Illustrated London News*, January 13, 1917, page 18.

¹⁸³ Daimler Advertisement, *The Graphic*, February 9, 1918, page 28.

England in a post war 'Humber' car."¹⁸⁴ Other groups also saw the value in referencing tanks, as the tanks were included in National Service recruitment advertisements boldly proclaiming that "This is an engineer's war."¹⁸⁵ In both a visual sense and in connection with the war, tanks gained specific connotations that advertisers used and encouraged to reach civilian audiences.

Though British newspapers rarely had the space or insight to evaluate the tanks tactically, as Major Fuller or Sir Liddell Hart would do in their books and papers, newspaper articles managed to keep pace with the various concerns and ideas being circulated around the tank. Without detailed knowledge of the production or numbers of the tanks available, newspapers focused on the tanks in action, relating the attributes of the tanks as a laundry list of their advantages. Tanks could compress barbed wire, making paths for the infantry;¹⁸⁶ tanks could overcome trenches with ease, maintaining forward momentum;¹⁸⁷ tanks could provide covering fire from their Lewis and Hotchkiss guns, taking down German machine gun nests and rescuing the infantry from the ongoing rain of machine gun bullets.¹⁸⁸ At times, newspapers praised the tanks beyond reasonable expectation, going above and beyond in their descriptions to explain the might, power, and majesty of the tanks.

Rather than detailing the abstract technical minutiae or the theoretical tactical applications of the tanks, authors preferred the personal testimonies of tank men, many of which reinforced earlier characterizations of the tanks as funny, easy-going animals. Though authors did not pit cavalry against the tanks as Fuller did, they invited comparisons between tanks and their non-mechanical counterparts—and between the tank crews and their non-mechanical compatriots.

¹⁸⁴ Humber Advertisement, *The Graphic*, April 27, 1918, page 31.

¹⁸⁵ National Service Advertisement, *Dundee Courier*, March 15, 1917, page 4.

¹⁸⁶ "Arrival of the Tanks", *Liverpool Daily Post*, September 25, 1916, page 4.

¹⁸⁷ "The Willies: Our Latest Military Weapon", *Diss Express*, September 22, 1916, page 6.

¹⁸⁸ "His Majesty's Land Navy", *Evening Despatch*, September 21, 1916, page 1.

They know the points of a 'Tank' as you know, or think you know, the points of a horse, and they love the Willies and know them to be beautiful...they were foregathered with the Willies in the field, testing them, playing around with them, cruising about the obstacle course, and generally consolidating that intimacy which makes one thing of a man and his machine, one family of a ship and her crew.¹⁸⁹

The men of the tanks were not so different from cavalry men, or from sailors, or even from other soldiers: their experiences and their attachments gained context from references to other branches of the Army or Navy.

Newspaper correspondents, working both from personal experience and from the testimonials of soldiers, wandered between presenting the tank as a monster and presenting the tank as a marvelous joke. "Pantomime and Pure Horror;"¹⁹⁰ "The Flers 'Stunt';"¹⁹¹ "Our Newest Monster:"¹⁹² newspaper headlines repeatedly emphasized both the terrifying aspects of the tanks and their theatrical comedic aspects. The tanks earned attention for their military exploits in the press, but beyond their military application, authors identified them as a comic element.

The Tanks have supplied the touch of comic relief and excited the mirth of the British soldier, always blessed with a keen sense of the ridiculous. They acted as an antidote to the effect of the 'Jack Johnsons,' 'Weary Willies,' 'Silent Susies,' 'Whizz Bangs,' 'Sausages,' 'Rum Jars,' tear shells, gas shells, and all the other frightfulnesses of the unspeakable Boche. They counteracted the weariness, the hunger and thirst, the dust, the mud, and all the squalor and filthy discomfort of war.¹⁹³

Because the tanks were British, authors could find them comedic and inspiring all at once, developing a meaning for British readers through the adjectives and metaphors applied to them.

¹⁸⁹ "The 'Tank' Eye", *Evening Despatch*, January 2, 1917, page 1.

¹⁹⁰ "Pantomime and Pure Horror", *The Falkirk Herald*, November 1, 1916, page 3.

¹⁹¹ "The Flers 'Stunt'", *Evening Despatch*, September 21, 1916, page 1.

¹⁹² "Our Newest Monster", *Shepton Mallet Journal*, September 22, 1916, page 3.

¹⁹³ "About the Tanks", *The Diss Express and Norfolk and Suffolk Journal*, September 14, 1917, page 2.

Thomas also echoed these sentiments in his book, where a quotation from Lewis Carroll's *Through the Looking-Glass* provided the absurd descriptions of early tanks: "the Jabberwock with eyes of flame' who 'came waffling through the tulgey wood/and burbled as it came.'" ¹⁹⁴ For Thomas, the contrast between the chaos of the battlefield and the serenity of the tanks, impassive and unemotional as they were, heightened his sense of the ridiculous. Tanks required crews, of course, "tough little men" to coordinate their gears and man the guns, but once the doors were closed, those crews were invisible to outside observers, giving the tank a form of mechanical life while hiding any human effort. ¹⁹⁵ To emphasize the British origin of the tanks, Thomas chose not to utilize Biblical or biological references to define the tanks in his account, but reached for a specifically British literary reference. Using *Through the Looking-Glass* indicated that Thomas was directing his comments at an audience that would understand this reference and understand the joke. From their arrival on the battlefield to their final push, Thomas repeated the image of the tanks as objects of amusement, relating them to British audiences by quoting a familiar reference.

Neither was the humor lost in other interpretations. Songs and pantomimes allowed civilians to memorialize events in casual, light-hearted ways, and the most popular of these songs, "Take Me Back to Dear Old Blighty," remained a staple in British war references throughout the twentieth century. Though not as popular, "The Tanks that Broke the Ranks (out in Picardy)" was a similar song that gained popularity in the winter of 1916 through Fred Curran's pantomime tour. As the tanks of reality accomplished little on the Western Front, languishing in their need for supplies and trained men, the tanks of pantomime promised a breakthrough in movement and a quick resolution to the war: after their joyride through Picardy, it was merely "tuppence all the way from here to Berlin!" ¹⁹⁶ Comedians constructed mock tanks for stage use,

¹⁹⁴ William Beach Thomas, *With the British on the Somme*, 221.

¹⁹⁵ Thomas, *With the British on the Somme*, 219.

¹⁹⁶ "The Tank that Broke the Ranks Out in Picardy", sound recording, 1916, catalogue no. LBY G. 125, Imperial War Museum, London, England.

unknowingly mimicking the tank crews on their training fields as they staged their battles with false tanks of wood and canvas.¹⁹⁷ A marionette show included both tanks and battleships as the “chief figures of a patriotic scene,”¹⁹⁸ and dancers adapted the tanks into routines for touring shows.¹⁹⁹

A later addition to items of tank media involved the publication of a poem by A.A. Milne, the author who would later gain notoriety for his creation of Winnie the Pooh. The poem itself, though untitled, listed the features of tanks as part of an expression of gratitude, ending with an expressive “THANKS!” At the same time, Milne also included references to the crews of the tanks, applying his gratitude equally to the men who worked in the tank crews. “But they’re not quite mechanical Tanks/There are men at the wheel and the gun.”²⁰⁰ Without the mathematical comparisons of man-power to machine power, or the cost-saving arguments presented by Major-Colonel Fuller, Milne presented the tanks as additions to the inherent strength, diligent, and ability of the British army. The tanks required crews, and so despite their mechanical nature, would always remain “not quite mechanical.” Another line claimed “No, it isn’t all fun in the Tanks:/You may read with a cheer/How they crashed down the wire,/But perhaps you don’t hear/That a couple caught fire – “; that the tanks were exciting was clear to Milne, but his effort was directed at reminding readers of the human elements of tank warfare, and the real dangers therein.

Newspapers were not always limited to mere textual descriptions to describe the visual appeal of the tanks. Before photographs were made available to the press, correspondents and artists had to fill the visual void, working from eyewitness reports to present the tanks in sketches. Descriptions could give some guidance to artists, but there was little reference material for artists to utilize. One artist, drawing on the colorful reports of the tanks rather than searching for a

¹⁹⁷ “In the Limelight”, *The Liverpool Echo*, December 1, 1916, page 3; Watson, *A Company of Tanks*, Chapter II.

¹⁹⁸ “The Palace, Burnley”, *Burnley Express*, September 12, 1917, page 4.

¹⁹⁹ “Amusements”, *Edinburgh Evening News*, September 13 1917, page 1.

²⁰⁰ “A.A. Milne Tank Poem Found”, Tank 100, Tank Museum, September 9, 2016, <http://tank100.com/homefront/milne-tank-poem-found/> .

realistic perspective, drew a collection of animal-like vehicles exaggerating one feature or another from the various press accounts. One “tank” resembled a hedgehog bristling with guns; another a crouching frog with wheels; a third complete with a tail behind it to evoke the silhouette of a shark or dinosaur. (Figure 1.)²⁰¹ An even more absurd contraption was published in the *Liverpool Echo*, with wheels with tracked treads and compartments like a train; a “face” like that of an animal, complete with a tree in the “mouth” of the tank, attempted to convey the tanks’ capacity to overcome obstacles, though taken to an extreme. (Figure 2.)²⁰² Though their military purpose was vital to their existence, the tanks entered the civilian world with less serious imagery. This did not detract from their popularity, however: if anything, the amusing features of early reports and cartoons allowed audiences to enjoy the tanks despite the fact that they had accomplished little on the battlefield. . Early tank battles in 1916 rarely replicated the breakthrough of September, and so it was that in the press that the tanks earned greater accomplishments through interesting imagery rather than their technical strengths.

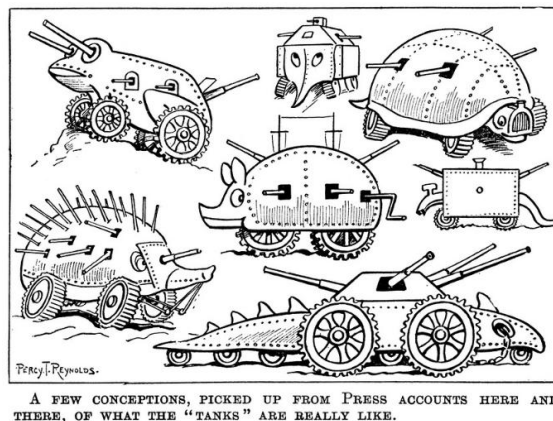


Figure 1. A few conceptions, picked up from Press accounts here and there, of what the “tanks” are really like.²⁰³

²⁰¹ Punch Cartoon, September 27 1916, last accessed June 10, 2018, <https://punch.photoshelter.com/gallery-image/WW1-Cartoons-The-Great-War/G0000dASULVAdiAI/I00005mXvM50B.BY>.

²⁰² “Pen-Pictures of the Battle”, *Liverpool Echo*, September 18, 1916, page 4.

²⁰³ Punch Cartoon, September 27, 1916.

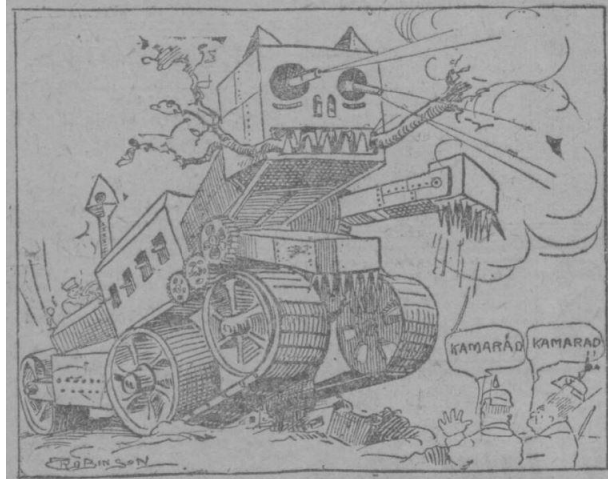


Figure 2. Our artist's fanciful drawing of the new motor 'tank'. It is depicted in the act of enjoying a snack in the shape of a tree as it approaches the enemy trenches.²⁰⁴

In late November and early December of 1916, photographs began to reach newspapers in a rush, allowing for the publication of dramatic headlines above the images of tanks in action. When a picture failed to include anything of sufficient visual excitement, captions easily supplied fuel for a viewer's imagination: "The Tanks have been described as able to knock down houses and trees, and crawl over trenches and shell-craters, spitting fire, and impervious to anything but a direct hit from a big shell."²⁰⁵ While technically true, this description failed to communicate the slow speed of the tanks, the mechanical difficulties that accompanied their movement, and the problems in steering that made tanks an occasional danger to their own lines. Though smoke and fog were easily found on the Western Front, their inclusion in tank photographs often lent a mysterious air to the new figures. Caption authors eagerly pointed out the clouds of smoke, attempting to indicate to their viewers how the sight of a tank looming out of the smoke could provoke superstitious terror among German opponents.²⁰⁶ Photographs did not shy away from

²⁰⁴ "Pen-Pictures of the Battle", *Liverpool Echo*, September 18, 1916, page 4.

²⁰⁵ "A Tank in Action", *Illustrated London News*, November 25, 1916, page 7.

²⁰⁶ "Juggernauts' Germans Thought 'An Impertinence'", *Illustrated London News*, December 2, 1916, page 11.

capturing the monstrous elements of tank designs, but the earlier notes of humor and the patriotic tone of early reports helped to contextualize the monstrosity in positive, beneficial ways. When photographs were not available, drawings sufficed, usually sketching the outline of the tank faithfully but occasionally adding bulk to various areas of the tank's trapezoidal profile. One publication, *The Graphic*, in a humorous twist, published an issue with pictures of water tanks, noting the pressure of the censor but confident that there remained some "tanks" they could photograph freely.²⁰⁷ Though the tanks began as a secret development, newspapers and other publications found ways to discuss them and portray them, adding new interpretations to their depictions as they explained the tanks to their British readers.

Material Goods

Models, whether professionally made or carved by amateur enthusiasts, reflected the intense popularity of the tank image, visible in private collections to this day. Collectors Bill Howell and Barbara Jones claim that "Their popularity is demonstrated by the fact that, of all the hand-made souvenirs we have found, there are more representing tanks than any other weapon, and the Crest industry made more versions of the tank than of anything else."²⁰⁸ Crest, or crested china, was a popular form of model-making that began in the Victorian period to provide memorabilia to a British citizenry just beginning to enjoy the advantages of regular travel. To remember their holidays, vacationers sought small mementos to keep for themselves, but these mementos had to be inexpensive if they were to appeal to wide audiences. China manufacturers thus developed small models that could be easily replicated and mass-produced. Though the first china products were simply plates or medallions with a local coat-of-arms painted on them, by 1916 china models (of people, buildings, or even machinery) were a popular form of collector's

²⁰⁷ "Tanks", *The Graphic*, October 21, 1916, page 3.

²⁰⁸ Barbara Jones and Bill Howell, *Popular Arts of the First World War*, (New York: McGraw-Hill Book Company, 1972), 68.

item.²⁰⁹ When the first accounts of tanks were published in late September, the Arcadian China company registered a model within the week, getting their patent number by the 27th of that month. However, a lack of photographic references meant that the first model was absurdly proportioned, completed with a bulbous turret and too-small tracks.²¹⁰

As information about the tanks reached eager audiences, tank models began to flood the market, offering customers tanks as commemorative memorabilia or as practical household items. Though china tanks had little practical value, metal and wooden models could serve a number of purposes, including as jewelry boxes, paperweights, watch holders, inkwells, pincushions, and game pieces.²¹¹ A design for a tank brooch appeared in May 1917, bringing tanks into the realm of jewelry and fashion.²¹² By Christmas of 1917, the Tank Corps had been provided with their own badge, which joined other badges in the Christmas offerings of “badge brooches” on sale that year.²¹³ Designers churned out tank products as fast as their imaginations could carry them, and British citizens purchased, used, and saved their products.

Tanks as toys proved incredibly popular, namely because they could be constructed in miniature to closely resemble the real thing. Models produced in 1916 also enjoyed the most exaggerated imaginative designs, as photographs of the tanks did not reach toy designers or their audiences until late that year. Tanks captured the same interest as toy cars, while including the guns that made it a weapon rather than a mere vehicle. Tanks as toys provided no dramatic break or diversion from toys of the war years, but they were indicative of the trends in British entertainment. In her article on the topic, Margaret Higonnet identifies dolls and toys as methods

²⁰⁹ Sandy Andrews, *Crested China: History of Heraldic Souvenir Ware*, (Milestone Publications, 1980).

²¹⁰ Robert Southall, *Take me Back to Dear Old Blighty: The First World War through the eyes of the Heraldic China Manufacturers* (Horndean, England: Milestone Publications, 1982), 35.

²¹¹ Jones and Howell, *Popular Arts of the First World War*, 70.

²¹² “Amusements”, *Lincolnshire Echo*, May 4, 1917.

²¹³ “Shopping with Santa Claus”, *The Graphic*, December 8, 1917, page 34.

by which children entered a “culture of war” alongside their parents.²¹⁴ While cartoons, photographs, and public displays had primarily adult audiences, toys and games were specifically designed for children, catering to a desire to educate children in the meaning and methods of war. The book *Children’s Culture and the First World War* goes even further in presenting children’s novels as further areas of education, constructing heroism through clear, child-oriented narratives. Though toys had been part of human experience since ancient times, the late nineteenth century in Europe saw the creation and expansion of a toy industry, with serious study focusing on the design and adoption of toys beginning at the turn of the century.²¹⁵ Children as an audience, defined separately and with different needs than their parents, presented the manufacturers of the First World War with alternate ways to interpret current events. Children had already been attentive to the interest of their parents in the tanks: one schoolteacher stated that “her girls expected her to explain the kind of instrument the new war ‘tanks’ were,”²¹⁶ and the “up-to-date child” praised the production of toy tanks in time for Christmas of 1916.²¹⁷ Thus the tank was condensed, miniaturized, and marketed for children, including them in the tank’s audience.

This movement was not surprising for onlookers at the time: in November 1916, with Christmas fast approaching, the Leeds Mercury was proud to report that “patriotic little hearts will not be grieved to find the legend ‘Made in Germany’ attached to any of their presents,” and an extended review of available gifts assured shoppers that each type of soldier was available in miniature for the purposes of “miniature warfare.”²¹⁸ Toy suppliers were already producing caterpillar tanks to keep up with the “latest features.”²¹⁹ Aberdeen’s Evening Express promised

²¹⁴ Margaret Higonnet, War Toys: Breaking and Remaking in Great War Narratives, *Lion and the Unicorn: a critical journal of children’s literature*, 31, no. 2 (2007), 116-131.

²¹⁵ Anthony Burton, “Design History and the History of Toys: Defining a Discipline for the Bethnal Green Museum of Childhood”, *Journal of Design History*, 10, no. 1 (1997), 5.

²¹⁶ “Teaching and Tanks”, *Lincolnshire Echo*, September 23, 1916, page 2.

²¹⁷ “A Model ‘Tank’ Destined For The Christmas Trade”, *The Sheffield Daily Independent*, December 7, 1916, page 3.

²¹⁸ “The Toy Festival”, *Leeds Mercury*, November 8, 1916, page 4.

²¹⁹ “The Toy Festival”, *Leeds Mercury*.

"imitations of the much-talked of tanks" at Christmas toy fairs,²²⁰ and The Mercury advertised dolls which could be "run over with a Tank without spoiling their complexion."²²¹ Primus Engineering sets promised the opportunity to not only play with a model tank, but the chance to build it oneself.²²²



Figure 3. A photograph of a model tank being prepared for exhibition.²²³

The onset of Christmas also prompted the advertisement of picture books, granting artists their chance to bring the tanks into the homes of everyday Britons. The War Office had commissioned artist Muirhead Bone to make sketches of the Western Front, but his work had little tactical or strategic purpose: instead, his sketches were published in a small booklet made

²²⁰ "Sidelights on the War", *Evening Express*, November 15, 1916, page 1.

²²¹ "Addresses", *Lichfield Mercury*, December 8, 1916, page 4.

²²² "Presents for Boys", *Preston Herald*, December 16, 1916, page 3.

²²³ "A Model 'Tank' Destined For The Christmas Trade", *The Sheffield Daily Independent*.

available for commercial consumption.²²⁴ Valentine & Sons, Ltd. offered books with illustrations and descriptions with a report that "Her Majesty the Queen favored Messrs. Valentine with an order quite recently."²²⁵ Pantomime reappeared to play an important part in Christmas preparations. In Coventry, a tank replaced the traditional sleigh for Father Christmas, allowing him to distribute presents and also "fire" oranges from the tank's mock guns.²²⁶

Visual Appeal

Tank fervor did not abate with the New Year 1917, and a myriorama went on display in January of 1917 featuring illustrations of the tanks in action. More than a mere photograph, myrioramas followed a long tradition of displays intended to make visual spectacles.²²⁷ Like the diorama, panorama, and its less well-known cousins the cosmorama and the pleorama, the myriorama arranged images for maximum effect on their viewer. The myriorama contained a set of cards which could be arranged in different orientations to produce different pictures, and in the touring show of "Poole's Myriorama", audiences could see various war pictures without waiting for a war film to be developed. While the news of the tour brought some attention, one author found the impact of the illustrations even more striking than a mere photograph might offer. "While it brings home to those who are 'keeping the home fires burning' how terrible are the methods of modern warfare, recommends itself to those who have been in recent 'pushes' as giving a most realistic presentation of the work of the irresistible, all-defying land Dreadnoughts."²²⁸

Soon enough, the war film *Battle of the Ancre and Advance of the Tanks* came out in British cinemas in February of 1917, presenting an even more dynamic visual for British viewers.

²²⁴ Meirion Harries, and Susie Harries, *The War Artists : British Official War Art of the Twentieth Century*, (London: M. Joseph in Association with the Imperial War Museum and the Tate Gallery, 1983).

²²⁵ "A Choice of Yuletide Gifts", *Dundee Courier*, December 18, 1916, page 4.

²²⁶ "Coventry and District", *Coventry Evening Telegraph*, December 18, 1916, page 2.

²²⁷ Sophie Thomas, "Making Visible: The Diorama, the Double and the (Gothic) Subject", in *Gothic Technologies: Visuality in the Romantic Era*, edited by Robert Miles. 2005.

²²⁸ "Pooles Myriorama", *The Scotsman*, January 9, 1917, page 6.

Reports on the film overtook actual reports of tanks from the Western Front as audiences flocked to showings, and newspaper reviews applauded the fact that the film showed the truth of the war while still maintaining a dignified restraint in which pictures were chosen. Even more so than replicas or photographs, film brought the tanks to British audiences in ways not imagined in earlier wars. The pressure of a “total war” asked much of a nation, and the proximity of the war made it difficult for civilians to ignore the disappointing results as the war persisted. The largest civilian draft in British history also meant that civilian men were being pulled out of industry and family life to fight, and their families were asked to support the new soldiers individually and as a nation. Compelling a nation’s obedience grew increasingly more difficult the longer the war continued, and the production of war films used the new medium of film to woo citizens into agreement with the military. The involvement of the government allowed, and in fact encouraged, the recording of material from the front, but the government’s presence also meant that censors and War Office administrators manipulated those recordings before they were presented to civilian audiences.

Geoffery Malins, appointed by the War Office at the opening of the war, produced *Battle of the Ancre* as the second of three official war films, preceded by *The Battle of the Somme* and followed by *The German Retreat and the Battle of Arras*. Though *The Battle of the Somme* was and remains the most well-known of the three, all three films formed a vital part of British wartime propaganda. Newspapers praised *The Battle of the Somme* as an opportunity for civilians in Britain to experience the war for themselves, or at least to grasp a better understanding of the war than could be communicated in mere print. Though *The Battle of the Somme* and its sequels lacked sound, cinemas provided live music to accompany the film, and the film itself produced intense emotional reactions from its audience.²²⁹ Soldiers in the trenches were particular highlights of both films, but in both *The Battle of the Somme* and *Battle of the Ancre*, producers highlighted artillery alongside the soldiers, lending artillery pieces narrative agency and giving

²²⁹ Nicholas Reeves, "Cinema, spectatorship and propaganda: 'Battle of the Somme' (1916) and its contemporary audience.", in *Historical Journal Of Film, Radio & Television*, 17, no. 1, 1997.

them credit for the movement of the war. In Stacy Gillis' examination of these two films, the leveling influence of cinema allowed objects to gain equal status with human actors, an influence which British war film producers emphasized in order to display artillery as the motive force in the war.²³⁰ The presence of the tanks allowed producers to carry this concept even further: shots no longer needed human actors to show movement, since the tanks were capable of movement on their own. In one scene, as a tank crew gathered around the tank, they ducked inside through a door in the tank's sponson, disappearing from the camera's view as the tank itself began to move forward.²³¹

Though most reviews of *Battle of the Ancre* echoed earlier assessments of *The Battle of the Somme*, borrowing the earlier patriotic enthusiasm for the first war film, reviewers were also interested in the presentation of the tanks. With this chance to see their movement for the first time, audiences noted the same humorous movements first noted by war correspondents and tank crews, coupled with observations of how easily the tanks moved over the land.²³² The mud of the Western Front seemed no barrier for the tanks, though other shots illustrated how men and horses struggled in the mire of No Man's Land, following early optimistic visions of the tank in reports from the front.²³³

While consistently entertaining, the tanks never lost a patriotic theme. The Battle of Cambrai in 1917 prompted one artist, in the same magazine that had produced the cartoonish speculative drawings of 1916, to depict the tanks crushing the dragon of the Saint George myth, with Haig himself poised as George atop the tank. In one move, this image reinforced the power of the tanks (able to "out-dragon the dragon" with their armor and treads) and their English roots. With Saint George the patron saint of England, the reference afforded the tanks further legitimacy

²³⁰ Stacy Gillis, "'The skeleton is well wrapped in flesh': official First World War films and Modernist literary corporeality in H.D. and Virginia Woolf.", in *Literature and History*, 21, no. 1, 2012, 36.

²³¹ "The Battle of the Ancre and the Advance of the Tanks" Directed by Geoffrey Malins. 1917. London, : War Office. Imperial War Museum, Catalogue No. IWM 116. 25:14.

²³² "Electric Theatre: Progress of the Tanks", *Burton Daily Mail*, March 2, 1917, page 2.

²³³ "Boston Amusements", *Boston Guardian*, March 10, 1917, page 10.

as an English tool. In case the message was unclear, the artist also provided Haig-George with a shield bearing the flag of England and placed a *pickelhaube* on the dragon's head to indicate its allegorical German origins.



Figure 4. St. George Out-Dragons the Dragon (with Mr. Punch's jubilant compliments to Sir Douglas Haig and his Tanks).²³⁴

The tank could also serve to encourage patriotism in non-battlefield settings, as indicated by the attention given to munitions workers. Though not as flashy or spectacular as battlefield drawings, references to industry and factories began to include minor references to tank workers. Once the secrecy around the tanks was lifted, tank workers could be identified as participants in the tanks' success and joined the legions of other workers (whether allegorical or literal) in the praise afforded to them by newspapers and published artwork.²³⁵ Encouraging munitions work

²³⁴ Punch Cartoon, November 28 1917, last accessed June 10, 2018, [https://punch.photoshelter.com/image?&bqG=5&bqH=eJxNjsEKgkAQht_Gs4kWCHtY1w0mczdm18Aui2ZYUooW9PrtiIRzme87zD9_VGM4nTZjPU5.EzZBOyRNlov2.HjHaz8Olj9e.XZiMKlipJmqdui9WQwVKXIZZqBL_YrfSVHMHTBZCY2IASaegDPI9p4qnix7.XSJwYU9BijlFoiZIRWa5UBwNpKRwFbpd4uw7u_QeoYIBmyM_b9g8UXc_jB3SJkmz0s1na8ec2kf6mtJVQ--&GI_ID=.](https://punch.photoshelter.com/image?&bqG=5&bqH=eJxNjsEKgkAQht_Gs4kWCHtY1w0mczdm18Aui2ZYUooW9PrtiIRzme87zD9_VGM4nTZjPU5.EzZBOyRNlov2.HjHaz8Olj9e.XZiMKlipJmqdui9WQwVKXIZZqBL_YrfSVHMHTBZCY2IASaegDPI9p4qnix7.XSJwYU9BijlFoiZIRWa5UBwNpKRwFbpd4uw7u_QeoYIBmyM_b9g8UXc_jB3SJkmz0s1na8ec2kf6mtJVQ--&GI_ID=)

²³⁵ "Industry's Contribution to Victory: What the Prince Saw at Birmingham", *The Graphic*, March 30, 1918, page 23.

and industry was vital for a war being waged with such material needs. The British government relied on civilian workers and corporations to cooperate with the war effort, even as the war extended further and further. Presenting munitions work as inherently patriotic was one path to keeping workers at their factories, and tying the tanks to industry gave propagandists a new and exciting icon to encourage work on the home front. Tanks, industry, and national feeling all leapt at viewers and readers from the pages of their newspapers: where the last two had begun to wane, the first could recapture the imagination and resurrect earlier enthusiasm.

Tank Banks

The initiation of the Tank Bank campaign, a program in the later months of 1917 to raise money through the purchase of war bonds, saw an increase in tank souvenirs and material goods. To emphasize the financial connections between tanks and war bonds, tank money boxes were produced as literal “Tank Banks.” Some banks were china models with slits in them, but others were made of wood or metal. Models produced for the Tank Bank campaign often had more information about their “parent” tank, stamped or etched with the tank’s number to provide a reference to the campaign.²³⁶ As part of the campaign, the Department of Information sent three tanks to various cities throughout Britain to encourage citizens to purchase war bonds. For most civilians, this was the first time they would see a tank in person, making the arrival of the tanks an occasion of note in many towns.

The first Tank Bank was unveiled in London, occupying Trafalgar Square with huge placards and performances featuring theatrical stars of the day. Engaging Londoners was a multi-step process, as a procession marched through the streets led by theater and vaudeville performers, who then made their public contributions to the Tank Bank while climbing atop the tank and reciting poems or songs. George Robey, a music hall performer popular at the time, took up a position inside the tank to act as a clerk, recording and accepting payments for war

²³⁶ “Tank Banks and Souvenirs”, March 23, 2016, Tank Museum.

bonds with a theatrical enthusiasm that won over the crowd.²³⁷ The first day of the London Tank Bank saw a collection over 100,000 pounds,²³⁸ and a week later, the total collection was over two and a half million pounds.²³⁹ Clearly the tanks had an appeal, for “it is obvious that had it not been for this new manner of raising revenue no such sum would have entered the coffers of the Treasury.”²⁴⁰ As the London campaign ended, finishing with over three million pounds raised, the citizens of London were treated to a final farewell, watching the tank start up and roll down the street under its own power.²⁴¹

London was not the only city to enjoy the campaign, and the excitement produced by the first week of the campaign in London only served to heighten the anticipation for other cities in the planned “Tank Bank” route. Though the campaign originally declared that it was only visiting cities with a population greater than 250,000, some towns attempted to lobby to redirect the campaign to bring the tanks despite their lower population.²⁴² The individual tanks developed a celebrity of their own, and though papers originally referred to them merely by their number, they soon switched to using the nicknames assigned to the various tanks: “Julian,” “Nelson,” and “Egbert.”

The Tank Bank campaign also provided the opportunity for various cities to engage in light-hearted competition. As the tanks made their way from city to city, each local newspaper reported on the current standing of the closest competitors, comparing the total amounts raised between cities and sometimes calculating the total contribution per capita. While reinforcing local pride, in much the same way as sporting events allowed cities and communities to rally around single events, the Tank Banks also convinced British citizens to affirm the nation as a whole through their financial contributions and through their attention to the Tank Bank events. “By

²³⁷ “Mr. George Robey, Tank Bank Clerk”, *The Globe*, December 1, 1917, page 8.

²³⁸ “£50,000,000 War Loan Dividend”, *Liverpool Daily Post*, December 1 1917, page 4; “Social and Personal”, *Western Mail*, December 1 1917, page 3.

²³⁹ “Tank Bank Realizes £2,641,008”, *The Scotsman*, December 8, 1917, page 6.

²⁴⁰ “Club Talk”, *The Sporting Times*, December 8 1917, page 2.

²⁴¹ “Over Three Millions Raised by the Tank”, *The Northern Whig*, December 10 1917, page 7.

²⁴² “The Tank Bank”, *Sunderland Daily Echo*, December 10 1917, page 3.

beating us, you will beat the Germans,” wrote one mayor to another in a public telegram, ensuring that the competition remained friendly by remembering their real competitors.²⁴³

There was little attempt to subconsciously convince citizens of the goodness of the state or of the war: the tanks were explicitly products of a British war effort, and the money they raised went to a British War Office. “What they saw was its conversion from a death-dealing instrument on a big scale into a commercial agency—into a bank with the Government at the back of it offering to accept any amount of money on loan on security of a gilt-edged character and at a reasonable rate of interest.”²⁴⁴ Some tactical features of the tanks, like their ability to conserve manpower or protect the infantry, filtered through to Tank Bank investors, as some women purchased war bonds from the tanks with a public proclamation that their purchases would “help other girls to get their sweethearts back quickly.”²⁴⁵ To memorialize their donation, these women planned to have their bond certificates framed, making the bonds themselves a demonstration of patriotic support beyond their financial application. Whatever the feelings towards the war might have been in private, the Tank Banks provided an opportunity and an increasing obligation to reaffirm the war effort in a casual, hopeful, and even celebratory atmosphere.

Bringing a tank into a town or city was no small task. Though members of the National War Savings Committee from London led the main campaign, each town was required to form a Tank Bank Committee in preparation for the tank’s visit, and it was this Committee that planned the events for the “Tank Week.” (Larger cities were sometimes privileged enough to have the tanks than longer for one week, but a week-long event was the usual experience.) Some towns had airplanes drop pamphlets in advance of the tank to promote the tank’s arrival.²⁴⁶ For others,

²⁴³ “Tank Bank Returns”, *The Birmingham Daily Post*, January 12, 1918, page 5.

²⁴⁴ “Public Curiosity”, *The Birmingham Daily Post*, January 1, 1918, page 8.

²⁴⁵ “Chit-Chat on Health, Dress, etc.”, *Chester Chronicle*, December 8, 1917, page 2.

²⁴⁶ “Message dropped from British Aeroplane”, L.E. Wilson File 3, catalogue no. GB0099, King’s College London Military Archives, London, England.

enthusiastic Tank Bank Committees used the tank to stage a mock battle, complete with model trenches and artillery pieces.

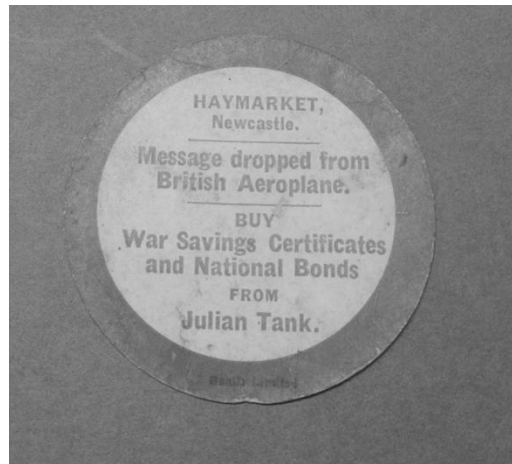


Figure 5. Message dropped from British Aeroplane.²⁴⁷

Afterwards, mayors from around Britain wrote back to the Tank Bank Organizers, primarily Louis Wilson, to emphasize the importance of the Tank Bank campaign and the “Tank Week” events which surrounded the arrival of the tanks. “I shall retain a very pleasant memory of the visit of the Tank to Blackburn,” said one letter, with another proclaiming that “tank week to us in Rochdale will always be a pleasant memory.”²⁴⁸ Notably, both Rochdale and Blackburn were smaller towns, below the population threshold of 250,000 earlier prescribed for the Tank Bank campaign, and other letters from Oldham and Aberavon point to other towns below the population threshold. Though not every town in Britain could be favored with a visit from the tank, the tank was not only a campaign for the largest cities: even small towns and rural communities had a chance of spotting a tank, exposing a greater number of British citizens to the tanks.

In giving citizens a direct view of the tank, and even the chance to walk around, step inside, and touch the side of a tank, the Tank Bank campaign also allowed civilians to enjoy

²⁴⁷ Bartels, K’Tera, “Message dropped from British Aeroplane”, 2018, JPG file.

²⁴⁸ Letter dated 6th December 1918, GB0099 KCLMA Wilson, LE, File 1, Kings College London Military Archives, London, England; Letter dated 18th April 1918, GB0099 KCLMA Wilson, LE, File 1, Kings College London Military Archives, London, England.

personal interactions like those of the tank crews. However, civilian audiences had already been prepared for the tanks through the previous year's war correspondence and photographs, giving them the references and concepts to understand the tanks without shock or horror. The military context of the tanks was hardly a detriment to their popularity in person or in imagery: newspapers eagerly reported on the Tank Bank proceedings even while the tanks saw action in France. Their double utility made it easy for reporters to construct articles that harmonized both features, writing such creative headlines as "In the Region of Leaden and Silver Bullets"²⁴⁹ or "A Batterer on the Field and a Bank at Home"²⁵⁰ to tie the fundraising efforts of the Tank Bank to the ongoing war.

A Public Image

The tanks were not alone or overly unique in their appearances in media or print: the notion of the British 'Tommy Atkins' soldier or a civilian 'John Bull' as a form of British everyman was present from the first year of the war and reinforced at every opportunity, whether by private authors or public correspondents and advertisements.²⁵¹ Airplanes, ships, artillery pieces, and soldiers themselves became models and toys, preserved in china and displayed in photographs and exhibitions.²⁵² However, the presence of tanks in low points of the war allowed reporters and correspondents to use the tanks as an optimistic note in an increasingly pessimistic war. The First World War saw the development of a home front, and consequently, the rise of the war film and the refinement of propaganda. Tanks were one of many subjects processed through the propagandist's pen, but their novelty allowed the War Office to invent or promote associations without worrying about contrasting narratives from previous wars. The most impressive display was the development of the Tank Bank campaign: unlike advances in naval technology, or the

²⁴⁹ "The Tank on the Tramp--Two Turns", *The Graphic*, December 15 1917, page 13.

²⁵⁰ "The Splendid Triumph of the Tank", *The Graphic*, December 1, 1917, page 10.

²⁵¹ Gregory, "A Clash of Cultures", *A Call to Arms*.

²⁵² Jones & Howell, *Popular Arts of the First World War*.

changes in guns and artillery, tanks were land-based, mobile, and entertaining, allowing citizens to see and feel the tanks and fix their image in public memory.

The tank's presence, whether material or imaginary, in Britain between 1916 and 1918 reached beyond the tank's actual contribution to the war. Fuller's brilliant imagination could not overcome the material shortages of the tank supply chain, and the men of the tank crews could not manufacture victories with their limited resources and growing exhaustion. However, the vivid imagery and novelty of the tanks provided newspapers, photographers, and War Office propagandists with the focus needed to bring new life to war bond fundraising and popular imagination. The tanks made slight contributions to the movement of the war—but they made breakthroughs in British war memory for those who experienced the war by proxy. Tanks allowed the British to reclaim a technical advantage over their opponents, but also provided a chance to relax, to enjoy something about the war by laughing at it. Tanks overtook British cinema more thoroughly than they ever overtook a ridge or embankment, and even if the first sight of them prompted horror, it was easier and more convenient to emphasize the jolly, ambling movements of the machines. Capitalizing on the tanks took a financial turn with the deployment of the Tank Banks, coercing civilian support for the war effort by using the novelty of the tanks to encourage donations. Civilians were encouraged to see the tanks from a positive and encouraging perspective, making it easy for propaganda efforts to reignite popular support for the war under the banner of the tanks.²⁵³

²⁵³ Trudi Tate, *Modernism, History and the First World War*, (Penrith: Humanities-Ebooks, LLP, 2013), 159; also see Walter Lippmann, *Public Opinion*, (New York: Harcourt, Brace and Co., 1922), 248-249.

CONCLUSION

In his book exploring the history of the tank, Patrick Wright wrote of his visit to a church in Swaffham Prior, a village in Cambridgeshire, and his discovery of a set of stained-glass windows in the parish church:

It was not a cherub or a host of singing angels that hovered in the top rose light, but a cigar shaped Zeppelin wedged up against a starlit sky. ... The window was packed with weapons, but none seemed more incongruous than the tank – a looming rhomboid phantom with a couple of large cart-like wheels trailing behind as it rose out of the mud to bear down invincibly on the infernal Huns who were spraying scarlet liquid fire over helpless Tommies in the adjacent window. This silvery mass certainly glowed, but hardly with the whitened light of Easter – more like the glimmer of a smeared lunette above an old public lavatory, or the sluggish gleam of a fish turning in a muddy pool.²⁵⁴

After the war, memorials emerged all over the nation, but the windows of Swaffham Prior stood out for their explicit inclusion of weaponry alongside the men memorialized there. Not only did the village choose to include the tank alongside other aspects of the war, but they included it in a religious context, placing it where parishioners would see it regularly.²⁵⁵ Though made of glass and framed by beautiful colors, the tanks pictured in the Swaffham Prior windows were still distinctly identifiable as Mark I model tanks, uniting the emotional pull of war memorials to the image of the tanks themselves.

After the armistice, the making of memorials provided opportunities for British citizens to commemorate the early tanks in a variety of forms, like the stained glass discussed above. The enthusiastic campaigning of the Tank Banks provided easy opportunities for citizens to retain souvenirs and memorabilia from the Tank Bank events, and the various toys and tank products released during the war paved the way for similar products after the war. The climax of the Tank

²⁵⁴ Patrick Wright, *Tank*, 116.

²⁵⁵ John Hardy, "Martial theology in glass", *Theology*, 119, no. 6 (2016), 417-425.

Bank campaign was the victory of West Hartlepool, with the greatest amount of money raised per capita, earning them the tank “Egbert” in 1919. With the development of the Mark V tanks in 1918 and the continual improvement in tank models, Mark I and Mark II tanks that had survived the war soon proved useless in any functional capacity, prompting the British government to donate them to dozens of towns around Britain as a show of gratitude for their participation in the Tank Bank fundraising.

However, the impact of the tanks was hardly limited to decorative and commemorative instances. The British approach to warfare would be influenced by the introduction of the tanks, and the debate over mechanization—whether it was wiser to invest in raw manpower, or to replace that manpower with machinery—began during the war only to intensify afterwards. While the tanks had accomplished much in 1917 and 1918, their presence and victories did not decide the debate immediately in favor of mechanization. In Larson’s *The British Army and the Theory of Armored Warfare, 1918-1940*, he explains that the dominating perspective of the British Army still relied on the strategy of attrition, which dictated much of Haig’s actions during his time in command. Thanks to the strength of the British navy, Haig and other officers believed that they simply had to outlast the German army while the British navy blockaded the German supply lines, and the British army would emerge in victory simply by the number of men and amount of ammunition used at the front. By 1919, Larson notes that “tanks had enabled infantry to attack without the long artillery preparation that had meant the loss of surprise and to advance at less cost to themselves while inflicting greater casualties upon the enemy. Thus, in the army’s view, tanks reinforced rather than undermined the validity of the strategy of attrition because it made such a strategy more efficient.”²⁵⁶

In the face of this debate, it was clear that the work of J.F.C. Fuller had only just begun, and his continued efforts on behalf of the Tank Corps redoubled his original position that tank warfare would quickly outstrip the potential of raw manpower. The formal establishment of the Tank Corps provided him, and other tank men, with the administrative support to encourage

²⁵⁶ Robert H. Larson, *The British Army and the Theory of Armored Warfare, 1918-1940*, (London: Associated University Presses, 1984), 65.

tactical discussion and share their experiences as tank men. Just as the civilians of Britain incorporated the tanks into their memorials of the war, the tank men found themselves reliving their memories through letter writing and publication of their memoirs. The organization of the Tank Corps allowed for the publication of a Tank Corps Journal, collecting both the tactical perspective of Fuller and the personal contributions of tank crew members both active and retired.

On an administrative level, the years between the First and Second World Wars saw a slow but certain shift in the army's consideration of mechanization. With the experience of the First World War, the Tank Corps were able to present realistic examples of the utility of tanks in cooperation with other branches, but the concept of tanks operating independently of infantry or artillery was rarely entertained seriously among British tacticians as the Second World War began. The concept of a tank army, or of tank battles fought primarily by tanks, was mostly ignored even as other nations developed their own Tank Corps.

During the interwar period, tank administrators faced a lack of funding for mechanization efforts, making it even more difficult to develop the Tank Corps beyond its wartime dimensions.²⁵⁷ Fuller remained with the Tank Corps until 1934, and he continued to write and publish tactical papers and articles on the development of armored warfare and mechanization in the army after the war's end. A British victory did not guarantee that administrators looked on the tank favorably, since army administrators assumed that the tank was a situational weapon shaped by its use on the Western Front. Fuller's writings sought a total replacement of man- and horsepower with tanks, infringing on the pride of the cavalry and earning him further enemies within the army's administration.

In the course of his publishing, Fuller gained the support of Sir Basil Liddell Hart, the man who would later write the published history of the Tank Corps in 1946. As the identified tank advocates, Fuller and Liddell Hart continued the mechanization debate from the perspective of

²⁵⁷ J. P. Harris, "British Armour 1918-40: Doctrine and Development", in *Armoured Warfare*, ed. J. P. Harris and F. N. Toase, (London: B. T. Batsford Ltd, 1990), 40.

the tanks, occasionally attempting to appeal to other groups to diversify their arguments, but usually reiterating repeated arguments about the life-saving potential of the tanks and their ability to outperform cavalry, infantry, and artillery alike.

This would prove one of the most dramatic contrasts between German and British tactics in the Second World War: despite the fact that the British Army had developed and deployed tanks first in the First World War, it was the German Army that invested more heavily during the interwar period to deploy fully prepared tank units in the Second World War, taking the lessons of British tacticians and applying them in the formation of their early armored units.

In his book, Patrick Wright follows the tank from its initial commemoration in British church windows through its use in the Second World War, featured as a visual indicator of German occupation; its incorporation into Soviet occupation and its presence as the Soviet Union's key land weapon, used in both military events and celebratory parades; and the tank's participation in the Six Day War, reliant on its inclusion in the Israeli Defense Force and a new generation of Israeli commanders who proudly described their tanks as living beings. . His work asks that his readers look not only to the tactical and physical developments of the tank, but to the cultural adaptations of the tank, as tank imagery is used first in one nation, then another. As tank technology developed, gained support in various nations, and gained more tactical support, their military and cultural impact followed apace, reaching far beyond the modest experiments of a few British engineers in the early twentieth century.

Though tanks have thrown off their British designers and become weapons of whichever nation chooses to use them, the former Tank Corps and the camp at Bovington take pride in their contribution to the story of the tanks. Now, the former Tank Corps adopts the title of the Royal Tank Regiment, and the former training grounds of Bovington have been converted into a Tank Museum, complete with a display ground where working tanks are driven across obstacles and over barriers—not to impress royalty or eager engineers, but to delight tourists and school groups visiting the museum. The nearby town of Lulworth, where the recruits of Bovington sought occasional respite from their training, still occasionally rumbles with the transit of the Tank

Regiment's current vehicles, and hiking trails around Lulworth Cove are often closed off due to tank training in the area. The anniversary of Cambrai Day, November 20, is commemorated by the Royal Tank Regiment with a parade, and the flag of the Royal Tank Regiment is much the same as the flag flown by General Elles on that day in 1917. Though their history may not be as long as that of other regiments, the Royal Tank Regiment celebrates the British story of the tank, working alongside the Tank Museum to preserve the artifacts of the past while working forward to the future.

Between the tacticians, tank crews, and civilian writers, the tanks were subject to a number of influences and interpretations, featuring as both heroes and villains in various perspectives. Though these audiences may not have always been aware of each other, the audiences themselves participated in a conversation of their own as the tanks grew and developed. Tacticians and administrators, based on their attitudes towards the tanks, laid the foundations for the production of the tanks, and their support (or lack thereof) allowed the tank crews to train with their tanks and face action with the backing of their administrators. Major Fuller was one of the key participants in this conversation, taking an important administrative stance to argue for tank production and to coordinate the development of tank tactics; his presence and fervent publications was a crucial foundation of the early Tank Corps and gave the tank crews room to develop their own experiences atop his hard work. Of course, Fuller's work would have been for naught if the crews themselves were not committed to the tanks: the formation of a unit identity, complete with a badge, regimental colors, and formal training camps, allowed Fuller's commanding officer General Hugh Elles to match Fuller's administrative efforts with real battlefield results. Establishing and maintaining morale, even in the face of administrative difficulties, gave the tank crews necessary consistency and allowed them to act with confidence in their battle experience, negotiating tactics on a smaller scale and incorporating change sometimes on a whim to work with the infantry and other tank crews in the moment.

When reporting on the actions of the tanks, newspapers used the testimonies of both tank crews and war correspondents, describing the tank actions with equal reference to the tanks and the men inside them. However, newspapers had little desire to publish detailed tactical discussions, and so the testimonies quoted emphasized the adventurous, dynamic features of the tanks rather than their tactical applications. The work of the tacticians, administrators, and designers faded into the background, while the tank crews and the tanks themselves emerged as the focus of most tank stories. Balancing the humanity of the tank crews with the machinery of the tanks was more effectively accomplished by tank men themselves, writing their memoirs after the war, but the civilian understanding of machinery in a military setting provided important opportunities to reinforce national sentiment and to begin moving away from a strictly anthropological assessment of warfare. Including the tanks in war stories placed them alongside other technical developments, such as airplanes, submarines, and battleships, to diversify the visual and cultural understanding of British military capability. Though simpler than the tactical evaluations or lived experiences of tank crews, the development of tank souvenirs and reporting of tank stories reached the largest audience of them all, and prepared British civilians to incorporate the tanks into war memorials and the continuing memory of the First World War.

The different chapters of this thesis emphasized the variety of experiences connected to early British tanks on the Western Front. Though the subject area was narrow in focus, the variety available from such a small focus reflected the wider amount of work to be done. The intersection of military history and technology reaches far earlier than the First World War, but the deployment of the tank provided a useful milestone to measure development.

Furthermore, the First World War also provided interesting examples of technical developments working in concert, devised and tested separately but used together in a battlefield environment. The tank itself was a combination of influences, originating with civilian machines and finding application in a military setting. The tank claimed some uniqueness for its specific military development, but technologies like the airplane and submarine also saw use in the First World War. The increased use of submarine warfare was one instance of a technology that

developed a niche in a military capacity, though across a greater period of time than was afforded the early tank. The development of the airplane was an even closer comparison to the tanks, as airplanes also rose to prominence in the First World War and developed significant tactical meanings for their ability to survey an area and carry ordinance to enemy lines. From a British perspective, the development of the Royal Air Force mirrored the early organization of the Tank Corps as it became the Royal Tank Regiment, and comparing the two organizations from an administrative and tactical perspective could allow for greater insight into the incorporation of new technologies into the British army.

In a similar vein, the debates over mechanization, in which Major Fuller took care to establish himself rather early, have already occupied a number of books from both contemporary and historical perspectives. However, there is always room to reexamine these debates with the passage of time, and considering different audiences could bring new dimensions to the mechanization debate, moving beyond merely tactical discussions to consider how civilians viewed these debates, and how much information was available to civilians for them to judge the debates on their own.

Moving beyond Britain and into continental Europe also provides further opportunities for research of this kind. The French army developed tanks at the same time as British engineers were testing their early models, and it was mostly thanks to Haig's enthusiasm that the British tanks were deployed first, rather than allow the Allied Powers to fully develop a French model to go into action alongside its British counterparts.²⁵⁸ The British and French experiences offer interesting comparisons, between the variety of models and the interaction with civilian engineers in the process of finding a useable machine. The German experience in the First World War presents less direct comparison, but moving into the interwar years provides interesting perspectives from the German army, even in the wake of the Treaty of Versailles. Heinz Guderian, one of Germany's earliest tank tacticians, admitted that Germany was slow to learn from the deployment of the British tanks, and the first tanks developed by the Germany army

²⁵⁸ Fletcher, "The Origins of Armour", *Armoured Warfare*, 11.

were disappointing in comparison, but the pace of adaptation during the interwar years meant that the Second World War presented a much different atmosphere for tank deployment than the First World War.²⁵⁹

This thesis is by no means exhaustive, for even after surveying the various audiences involved with early British tanks and their perceptions of those tanks, there remain multiple avenues for further research. Whether one chooses to study British tanks from the position of military history or cultural history, British tanks in the First World War cannot be evaluated as if they meant the same thing in every situation. It is the variety of audiences present from 1916 to 1918 that give the early British tanks their differing meanings: tanks might be an armored car, a tactical breakthrough, or a humorous plaything depending on who was describing them. The perceptions of the men and women who interacted with the tanks—those “not quite mechanical” features of a mechanical development—form a complex network of meaning beyond the technical advances of the tank itself.

²⁵⁹ Heinz Guderian, *Achtung—Panzer! The Development of Tank Warfare*, trans. Christopher Duffy, (London: Wellington House, 1992), 67, 71.

REFERENCES

Primary Sources

"£50,000,000 War Loan Dividend". *Liverpool Daily Post*. December 1, 1917.

"A Choice of Yuletide Gifts". *Dundee Courier*. December 18, 1916.

"A Model 'Tank' Destined For The Christmas Trade". *The Sheffield Daily Independent*. December 7, 1916.

"A Tank in Action". *Illustrated London News*. November 25, 1916.

"About the Tanks". *The Diss Express and Norfolk and Suffolk Journal*. September 14, 1917.

"Addresses". *Lichfield Mercury*. December 8, 1916.

Addy, Jason. Sound recording. 1983. Imperial War Museum, catalogue no. 7031. Last accessed May 15, 2018.

"Amusements". *Edinburgh Evening News*. September 13, 1917.

"Amusements". *Lincolnshire Echo*. May 4, 1917.

"Arrival of the Tanks". *Liverpool Daily Post*. September 25, 1916.

Bion, Wilfred R. *The Long Week-End 1897-1919 : Part of a Life*. Karnac Books, 1982.

Birks, Horace. Sound recording, 1976. Imperial War Museum, catalogue no. 870. Last accessed July 10, 2018. <http://www.iwm.org.uk/collections/item/object/80000864>.

"Boston Amusements". *Boston Guardian*. March 10, 1917.

"Chit-Chat on Health, Dress, etc.". *Chester Chronicle*. December 8, 1917.

"Club Talk". *The Sporting Times*. December 8 1917.

"Coventry and District". *Coventry Evening Telegraph*. December 18 1916.

Daimler Advertisement. *The Graphic*. February 9, 1918.

De Mole, Lancelot Eldin. "Letter asking for remuneration from the British Munitions Inventions Department". South Australia State Library, catalogue no. PRG 1319/1/30.

"Electric Theatre: Progress of the Tanks". *Burton Daily Mail*. March 2, 1917.

Elles, Hugh. "Special Order No. 6". Nov. 19 1917. Catalogue no. KCLMA Fuller/3/222/2. King's College London Military Archive, London, England.

Extract from unpublished biography of Brigadier G.C.G. Blunt, sent to Sir Basil Liddell Hart 16 September 1965. 1965. LH 7/1919/1. King's College London Military Archives, London, England.

Fuller, John Frederick Charles. "Mechanical History" in *Tank Corps Journal*, Nov.-Dec. 1932: 409-412.

Fuller, John Frederick Charles. *Memoirs of an Unconventional Soldier*. London: Nicholson & Watson, 1936.

Fullerton, W. J. Sound recording, 1971. Imperial War Museum, catalogue no. 710. Last accessed May 12, 2018.

"German Anti-Tank Weapons". 1918. British National Archives, Kew, catalogue no. MUN 4/6498.

"Gossip of the Day". *Yorkshire Evening Post*. September 21 1916.

Haig, Douglas, G. D. Sheffield, and John Michael Bourne. *War Diaries and Letters 1914-1918*. London: Weidenfeld & Nicolson, 2005.

Haig, Douglas. *Letter in Memorandum on the formation of tank armies*. 1917. British National Archives, Kew, catalogue no. WO 32/5933.

Hayward, Ernie. Sound recording, 1977. Imperial War Museum, catalogue no. 7029. Last accessed July 15, 2018. <http://www.iwm.org.uk/collections/item/object/80006843>.

Hickey, Daniel Edgar. *Rolling into Action: Memoirs of a Tank Corps Section Commander*. Uckfield, England: Naval & Military Press, 2007.

"His Majesty's Land Navy". *Evening Despatch*. September 21, 1916.

"Hoist with His Own Petard". *The Graphic*. October 7, 1916.

Hotblack, Frederick. Private Papers, catalogued 1973. Imperial War Museum London, catalogue no. 76/136/1.

Humber Advertisement. *The Graphic*. April 27, 1918.

"In the Limelight". *The Liverpool Echo*. December 1, 1916.

"Industry's Contribution to Victory: What the Prince Saw at Birmingham". *The Graphic*. March 30, 1918.

Jenkin, Arthur. *A Tank Driver's Experiences, or, Incidents in a Soldier's Life*. Elliot Stock, London, 1922.

"'Juggernauts' Germans Thought 'An Impertinence'". *Illustrated London News*. December 2, 1916.

Letter dated 6th December 1918. 1918. GB0099 KCLMA Wilson, LE; File 1. Kings College London Military Archives, London, England.

Letter dated 18th April 1918. 1918. GB0099 KCLMA Wilson, LE; File 1. Kings College London Military Archives, London, England.

Littledale, Harold A. "With the Tanks, I. Anatomy and Habitat". *The Atlantic Monthly*, Dec. 1918. 836-848.

Littledale, Harold A. "With the Tanks, II. Then Wander Forth The Sons of Belial". *The Atlantic Monthly*, Jan. 1919. 81-89.

Mackintosh's Advertisement. *The West London Observer*. March 2, 1917.

Mackintosh's Advertisement. *The Bedfordshire Times and Independent*. March 2, 1917.

McKenzie, F. A. "Allies Give Trench Warfare Its Death Blow". *Sunday Mirror*. October 1, 1916.

"Message dropped from British Aeroplane". 1918. GB0099 KCLMA Wilson, LE, File 3 Kings College London Military Archives, London, England.

"Mr. George Robey, Tank Bank Clerk". *The Globe*. December 1, 1917.

National Service Advertisement. *Dundee Courier*. March 15, 1917.

"Our London Letter". *The Northern Whig*. December 10, 1917.

"Our Newest Monster". *Shepton Mallet Journal*. September 22, 1916.

"Over Three Millions Raised by the Tank". *The Northern Whig*. December 10, 1917.

"Pantomime and Pure Horror". *The Falkirk Herald*. November 1, 1916.

"Pen-Pictures of the Battle". *Liverpool Echo*. September 18, 1916.

"Pooles Myriorama". *The Scotsman*. January 9, 1917.

"Presents for Boys". *Preston Herald*. December 16, 1916.

"Public Curiosity". *The Birmingham Daily Post*. January 1, 1918.

Reiffer, A. H. Sound recording, 1963. Imperial War Museum, catalogue no. 4212. Last accessed July 15, 2018. <https://www.iwm.org.uk/collections/item/object/80004187>.

"Shopping with Santa Claus". *The Graphic*. December 8, 1917.

"Sidelights on the War". *Evening Express*. November 15, 1916.

"Social and Personal". *Western Mail*. December 1, 1917.

Stern, Albert Gerald. *Tanks, 1914-1918: The Log-book of a Pioneer*. London: Hodder and Stoughton, 1919.

Steward, Bertram. Sound recording, 1986. Imperial War Museum, catalogue no. 9279. Last accessed July 15, 2018. <http://www.iwm.org.uk/collections/item/object/80009069>.

"Story of the War". *Leeds Mercury*. September 22, 1916.

Swinton, Ernest Dunlop. *Eyewitness, Being Personal Reminiscences of Certain Phases of the Great War, Including the Genesis of the Tank*. Garden City, N.Y.: Doubleday, Doran & Company, Inc., 1933.

"Tanks". *The Graphic*. October 21, 1916.

"Tank Bank Realizes £2,641,008". *The Scotsman*. December 8, 1917.

"Tank Bank Returns". *The Birmingham Daily Post*. January 12, 1918.

"Teaching and Tanks". *Lincolnshire Echo*. September 23, 1916.

The Battle of the Ancre and the Advance of the Tanks. Directed by Geoffrey Malins. 1917.
London, : War Office. Imperial War Museum, Catalogue No. IWM 116.

"The Fliers 'Stunt'". *Evening Despatch*. September 21, 1916.

"The Palace, Burnley". *Burnley Express*. September 12, 1917.

"The Splendid Triumph of the Tank". *The Graphic*. December 1, 1917.

"The 'Tank' Eye". *Evening Despatch*. January 2, 1917.

"The Tank that Broke the Ranks Out in Picardy". Sound recording, 1916. Imperial War Museum, catalogue no. LBY G. 125. Last accessed May 25, 2018.
<https://www.iwm.org.uk/collections/item/object/1502005702>.

"The Tank Bank". *Sunderland Daily Echo*. December 10, 1917.

"The Tank on the Tramp--Two Turns". *The Graphic*. December 15, 1917.

"The Toy Festival". *Leeds Mercury*. November 8, 1916.

"The War and the Lord Mayor of London". *The Graphic*. November 17, 1917.

The War History of the Sixth Tank Battalion. Antony Rowe Ltd., 1919.

"The Willies: Our Latest Military Weapon.". *Diss Express*. September 22, 1916.

Thomas, Sir William Beach. *With the British on the Somme*. London: Methuen & Co. Ltd, 1917.

Thomas, Sir William Beach. "The Hush-Hush". Reprinted in *Liverpool Echo*. September 18, 1916.

Wells, Herbert G. "The Land Ironclads". *The Strand*, December 1903.

Watson, William Henry Lowe. *A Company of Tanks*. London: William Blackwood, 1920.

Wainwright, John. Sound recording, 1988. Imperial War Museum, catalogue no. 10600. Last accessed July 10, 2018. <https://www.iwm.org.uk/collections/item/object/80010378>.

Williams-Ellis, Clough. *The Tank Corps*. London: Published at the offices of "Country Life" Ltd, 1919.

Wright, Alexander. Sound recording, 1977;. Imperial War Museum, catalogue no. 33696. Last accessed July 15, 2018. <http://www.iwm.org.uk/collections/item/object/80033390>.

Wright's Soap Advertisement. *The Illustrated London News*. January 13, 1917.

Secondary Sources

"A.A. Milne Tank Poem Found", Tank 100. Tank Museum. September 9, 2016. <http://tank100.com/homefront/milne-tank-poem-found>.

Andrews, Sandy. *Crested China: History of Heraldic Souvenir Ware*. Milestone Publications, 1980.

Badsey, Steven. "The Missing Western Front". In *War and the Media: Reportage and Propaganda, 1900-2003*, edited by Mark Connelly & David Welch. London: I.B. Tauris and Co. Ltd., 2005.

Blaber, Roger. "Tanks in the Hundred Days 1918: A Diminishing Resource". *British Journal for Military History*, 2, no. 1, (November 2015): 119.

Burton, Anthony. "Design History and the History of Toys: Defining a Discipline for the Bethnal Green Museum of Childhood". *Journal of Design History*, 10, no. 1 (1997): 1-21.

Fletcher, David. *British Mark I Tank 1916*. London: Osprey Publishing, 2014.

Fletcher, David. *Tanks and Trenches: First Hand accounts of tank warfare in the First World War*. Frome, Somerset: Alan Sutton Publishing Limited, 1994.

Gillis, Stacy. "'The skeleton is well wrapped in flesh': official First World War films and Modernist literary corporeality in H.D. and Virginia Woolf." *Literature and History*, 21, no. 1, (2012): 24-43.

Gregory, Adrian. "A Clash of Cultures: The British Press and the Opening of the Great War". In *A Call to Arms: Propaganda, Public Opinion, and Newspapers in the Great War*, edited by Troy Paddock, 15-50. Westport, Conn.: Praeger Publishers, 2004.

Guderian, Heinz. *Achtung—Panzer! The Development of Tank Warfare*. Translated by Christopher Duffy. London: Wellington House, 1992.

Harries, Meirion and Susie Harries. *The War Artists : British Official War Art of the Twentieth Century*. London: M. Joseph in Association with the Imperial War Museum and the Tate Gallery, 1983.

Harris J.P. and F. N. Toase. *Armoured Warfare*. London: B. T. Batsford, 1990.

Hart, Basil Liddell. *The Tanks, Vol. 1*. New York: Frederick A. Praeger, 1959.

Higonnet, Margaret. "War Toys: Breaking and Remaking in Great War Narratives". *Lion and the Unicorn: a critical journal of children's literature*, 31, no. 2 (2007), 116-131.

Hogg, Ian. *Armour in Conflict : The Design and Tactics of Armoured Fighting Vehicles*. London: Jane's, 1980.

Jones, Barbara and Bill Howel., *Popular Arts of the First World War*. New York: McGraw-Hill Book Company, 1972.

Larson, Robert H. *The British Army and the Theory of Armored Warfare, 1918- 1940*. London: Associated University Presses, 1984.

Lippmann, Walter. *Public Opinion*. New York: Harcourt, Brace and Co., 1922.

Ogorkiewicz, Richard M. *Armour : The Development of Mechanised Forces and Their Equipment*. London: Stevens & Sons, 1960.

Philpott, William James. *Anglo-French Relations and Strategy on the Western Front, 1914-18*, New York: St. Martin's Press Inc., 1996.

Reeves, Nicholas. "Cinema, spectatorship and propaganda: 'Battle of the Somme' (1916) and its contemporary audience." *Historical Journal Of Film, Radio & Television*, 17, no. 1 (1997): 5-28.

Royal Armoured Corps Tank Museum. *Tanks: the First World War, 1915-1918*. Bovington Camp, Dorset: R.A.C. Tank Museum, 1956.

Sheffield, Gary and Stephen Badsey. "Strategic Command". In *The Cambridge History of the First World War, Vol. 1*, edited by Jay Winter. Cambridge: Cambridge University Press, 2013.

Southall, Robert. *Take me Back to Dear Old Blighty: The First World War through the eyes of the Heraldic China Manufacturers*. Horndean, England: Milestone Publications, 1982.

Steel, Nigel, and Peter Hart. *Tumult in the Clouds: The British Experience of the War in the Air, 1914-1918*. London, Hodder and Stoughton: 1997.

"Tank Banks and Souvenirs." Tank 100. Tank Museum. March 23, 2016.
http://tank100.com/objects/tank_banks/

Tate, Trudi. *Modernism, History and the First World War*. Penrith: Humanities-Ebooks, LLP, 2013.

Thomas, Sophie. "Making Visible: The Diorama, the Double and the (Gothic) Subject". In *Gothic Technologies: Visuality in the Romantic Era*, edited by Robert Miles. 2005. Last accessed July 23, 2018. <http://www.rc.umd.edu/praxis/gothic/thomas/thomas>

Wilson, Ross J. *Cultural heritage of the Great War in Britain*. Farnham, Surrey: Ashgate, 2013.

Winter, Jay and Antoine Prost. *The Great War in History: Debates and Controversies, 1914 to the Present*. Cambridge: Cambridge University Press, 2005.

Wright, Patrick. *Tank: The Progress of a Monstrous War Machine*. London: Faber and Faber, 2000.

Zaloga, Steven J. and James Grandsen. *Soviet Tanks and Combat Vehicles of World War Two*. Arms and Armour Press: 1984.